Distr.
LIMITED

UNIDO/IS.479/Add.1
20 July 1984

ENGLISH

UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

PROSPECTS FOR INDUSTRIAL DEVELOPMENT AND FOR A CAPITAL GOODS INDUSTRY IN INDONESIA

Volume II. Prospects for industrial development*

Prepared by the

Regional and Country Studies Branch
Division for Industrial Studies

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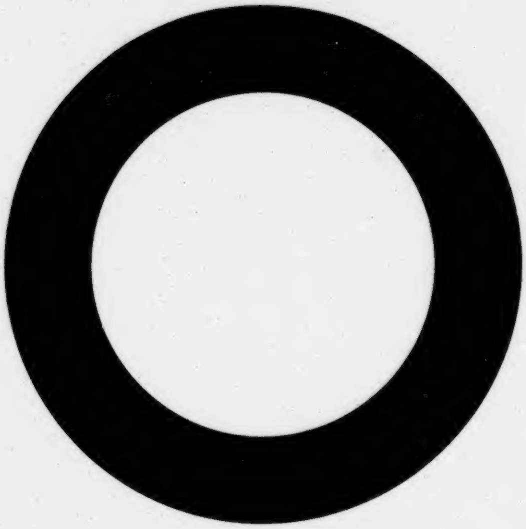

The UNIDO INDONESIA INDUSTRY SECTOR STUDY (UC/INS/82/106) comprises three volumes:

PROSPECTS FOR INDUSTRIAL DEVELOPMENT AND FOR A CAPITAL GOODS INDUSTRY IN INDONESIA

Volume I: Main Report

Volume II: Prospects for Industrial Development

Volume III: Prospects for a Selected Capital Goods Industry

- Part One: Survey of capital goods and engineering industry
- Part Two: Long-term projections of demand for capital goods
- Part Three: Capital goods production in developing countries: international experience
- Part Four: Potential for development of a selected capital goods industry

Volume II: Prospects for Industrial Development

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EXPLANATORY NOTE

The following abbreviation have been used:

EEC	European Economic Community
EP	Export Performance Ratio
FI	Factor Intensity
GDP	Gross Domestic Product
IGGI	Inter-governmental Group on Indonesia
ISIC	International Standard Industrial Classification
K	Capital intensity
L	Labour intensity
LNG	Liquified Natural Gas
mbd	Million Barrels per day
MVA	Manufacturing Value Added
NAFED	National Agency for Export Development
NEI	Netherlands Economic Institute
NIC	Newly Industrializing Country or Area
OECD	Organization for Economic Co-operation and Development
OPEC	Organization of Petroleum Exporting Countries
PD	Product Development
RCA	Revealed Comparative Advantages
RES	Resource Dependence
SITC	Standard Industrial Trade Classification
SK	Skill Intensity
UNIDO	United Nations Industrial Development Organization

Volume II. Prospects for Industrial Development

Chapter I. Recent economic development in Indonesia

The decade and a half since 1968 have been a period of rapid and sustained economic development in Indonesia such as few would have thought likely or possible in the 1950s or early 1960s.

Indonesia, the fifth largest country in the world, had passed through several decades of economic malaise and political turmoil. The troubles began with the great depression of the 1930s which severely hit the Dutch-ruled colonial economy. Then followed the scorched-earth policy and Japanese occupation during World War II, the post-war years of war against the Dutch and, after attainment of independence, years of political instability and, despite intermittent efforts by successive governments, economic stagnation or decline. They ended, in the last years of Sukarno's "guided democracy", in economic chaos with few parallels in a large country except in the aftermath of war or revolution. Inflation, fuelled by mounting budget deficits, reached an annual rate in excess of 1,000 per cent. The tax system had largely broken down, eroded by inflation and corruption. For some years no government budget had been published. Exports, throttled by a complex network of multiple exchange rates and regulations, were paying for barely one-half of imports. The country was in default on external debts the magnitude of which was unknown. The infrastructure of railways, ports, inter-island shipping and public utilities, including much indispensable irrigation, had been allowed to run down for decades. The small manufacturing sector, chiefly textile weaving, was operating at 10-30 per cent of capacity for lack of foreign exchange for materials and spare parts. Peasant agriculture had increasingly withdrawn from the cash economy into subsistence production.

The new Government under General Soeharto which took over power during 1966, in the wake of an abortive coup on 30 September 1965, made economic stabilisation, rehabilitation and development its top priorities. Within two years, inflation was brought under control by orthodox monetary-fiscal restraint, assisted by balance of payments support from a consortium of creditor/donor countries (IGGI). Exchange controls were dismantled, the exchange rate gradually unified, foreign trade partially deregulated and efforts made to correct the worst distortions in the domestic price structure. A Foreign Investment Law was passed to provide tax and other incentives to foreign investors. Professional economists, largely from the University of Indonesia, were enlisted, first as economic advisers, later as Ministers, to take charge of economic policy formulation, with a good deal of help from the International Monetary Fund, the World Bank, the United Nations and other agencies. In 1968, development expenditure, which had been temporarily suspended, was resumed for rehabilitation of infrastructure. On 1 April 1969, the first Five Year Plan (Repelita I) came into operation, with food production as the top priority.

Indonesia was fortunate in two respects. The Government's decision to give the highest priority to food, and especially rice, coincided with the "green revolution" in rice - development at the International Rice Research Institute of high-yielding, fast-maturing varieties; and the OPEC oil price increases of 1973-74 and 1979-80 for a decade freed Indonesia from balance of payments constraints and provided ample government revenues. Neither by itself would have ensured successful development. But combined with dynamic but by and large prudent economic policies which grasped the opportunities, the two pieces of good fortune helped lift Indonesia into the category of fast-growing, middle-income countries of East Asia.

Even before the new rice varieties became available, a rice intensification programme (Bimas or "mass guidance") had been initiated in the late 1960s, including irrigation, fertiliser, pesticides, rural credit and agricultural extension. These measures, together with price incentives to farmers, massive expansion of domestic urea production and extension of multiple cropping, laid the foundation for a sustained expansion of rice production, only briefly interrupted by disease and credit repayment problems in the years 1975-77. Growth of rice output averaged 5 per cent a year over 13 years, 1968-81, an achievement probably unmatched in any large developing country. Its importance for Indonesia's economic development can hardly be overestimated. A more than twofold increase in output of the preferred staple food not only directly raised the living standards of the majority of subsistence farmers but increased cash income and purchasing power throughout the rural areas, especially in Java. It expanded non-agricultural employment opportunities, greatly enlarged the mass market for consumer goods and services and saved foreign exchange for rice imports. In 1982 and 1983, severe drought almost halted growth of rice output, but there are grounds for confidence that the growth trend which has brought Indonesia close to self-sufficiency in rice will be resumed with more normal seasons and that the new technology for higher yields can be extended to other food crops.

Indonesia has been an oil producer for almost a century. The discovery of the large Caltex "Minas" field during the 1950s gave a spurt to crude oil production, raising Indonesia's output to about 2 per cent of world production. In the early 1960s, new agreements between the government and the foreign oil companies gave the state oil enterprise substantial control over the industry and the government a large share in its profits in the form of oil company tax. From 1968 onwards, exploration activity revived, under production-sharing contracts between Pertamina and numerous foreign companies, and output rose rapidly.

It was at this point, in 1973/74, that the fourfold increase in the oil price by OPEC, of which Indonesia was and remains a member, transformed Indonesia's financial situation. The huge improvement in the terms of trade doubled Indonesia's export earnings and, together with renegotiation of the profit split between government and companies, more than doubled government revenue.

The oil boom was a shock to the system and, as in other oil exporting countries, brought difficulties of economic management. Large domestic deficits, which were consistent with formally balanced budgets while export revenues were rising rapidly, threatened hard-won price stability. In 1974 the inflation rate rose again to nearly 40 per cent. Over-exuberant expansion of the state oil enterprise, Pertamina, caused a major crisis which temporarily shook confidence in the Government's credit. The mid-1970s brought symptoms of the "Dutch disease", as non-oil traded goods producers, in cash crop export and import-competing manufacturing industries, were squeezed between a fixed exchange rate and domestic inflation. It was primarily this concern that led to the large devaluation of the rupiah (by 33 per cent) in November 1978, although balance of payments considerations - declining real prices of crude oil and a slump in world market prices of some of Indonesia's major non-oil export commodities - also seemed to justify such a step. In the event, the second OPEC oil price increase, of 1979-80, on the contrary, brought three more years of large balance of payments surpluses and abundance of government revenue. Inflation again threatened to get out of hand but was again well contained.

All these vicissitudes notwithstanding, there is no doubt that the two oil booms brought immense benefits. They made possible economic and social development programmes on a scale that would have been inconceivable without them. Whereas the first Five Year Plan, with its relatively modest overall targets, had focused on economic recovery and growth, largely neglecting social objectives for the time being, and within economic development on food production, the much more ambitious second and third Five Year Plans deliberately shifted the emphasis significantly towards social welfare, and within economic development towards industry, especially resource-based manufacturing.

Much of the additional oil revenue was used for so-called Inpres (Presidential Instruction) programmes for work creation on local public works, for school building, health clinics, drinking water, family planning and reafforestation projects. At the same time, the country's hydrocarbon, mineral and timber resources became the basis for very large, capital-intensive projects for the construction of oil refineries and other petrochemical plants, LNG trains, fertiliser and cement factories, aluminium and other smelters, saw-milling and plywood capacity, paper and sugar mills - mostly state enterprises or joint ventures with foreign investors. IGGI project aid and official commercial borrowing overseas supplemented oil revenue to finance a great deal of investment in irrigation, road construction, urban renewal and other infrastructure, as well as the Bimas and transmigration programmes. Partly as an easy way of distributing more widely the benefits of the oil bonanza, large budget subsidies kept down the prices of food, fertiliser and oil products.

Table I.1 presents some indicators of overall economic performance during the years 1968-81. Economic growth, measured by GDP at 1973 prices, averaged 8 per cent a year. The inflation rate fluctuated with the two oil booms after the initial stabilisation phase but was notably brought back to single digit figures in 1978 and again in 1981 (and 1982). The investment ratio (gross fixed capital formation as percent of GDP) rose from 9 to 21 per cent, the tax ratio (government revenue, including oil tax, as percent of GDP) from 8 to 24 per cent. Rice production rose at an average annual rate of 5 per cent, total food production at 4 per cent and the contribution of the broad agricultural sector (including forestry and fisheries) to GDP at 3.5 per cent. Production of crude oil peaked in 1977 and has since then hovered around a slightly lower figure, as the yield of the Minas field has declined and exports have been restrained by demand as well as the OPEC quota. Much of the growth of modern sector industrial production has been relatively capital-intensive, its direct contribution to employment has been small, estimated at almost half a million during the 1970s.

Table I.1 Indicators of economic performance, Indonesia, 1968-81
(Percentage)

Year	GDP Growth Rate	Inflation Rate	Growth of Output				Investment	Tax
			Rice	Food	Agriculture	Crude Oil	GDP Ratio	GDP Ratio
1968	13.9	85	12.5	9.1	6.9	18.0	9	8
1969	9.0	10	5.1	1.0	1.1	23.3	12	9
1970	10.9	9	6.5	3.5	4.2	15.1	14	10
1971	6.5	2	4.7	3.4	4.0	4.3	15	11
1972	9.4	26	-3.6	1.1	2.1	21.3	19	13
1973	6.8	27	10.6	7.0	5.5	23.8	18	15
1974	7.6	33	4.7	6.9	3.7	2.8	17	16
1975	5.0	20	-0.6	0.9	0.0	-5.0	20	18
1976	6.9	14	3.9	3.5	4.7	15.3	21	19
1977	8.8	11	0.1	-1.2	1.6	11.7	20	19
1978	6.8	8	10.1	9.6	7.2	-2.9	21	19
1979	5.3	20	2.3	4.0	3.8	-2.6	21	21
1980	9.6	16	12.8	8.6	5.2	-1.1	22	24
1981	7.6	7	10.4	8.1	3.5	1.6	21	24
Annual Average 1968-81	8.2	20.1	5.1	4.0	3.4	7.8		

Source: Central Statistical Bureau.

Evidence on the distribution of income is still inadequate for firm conclusions. Inequality in urban areas, and between urban and rural areas, has almost certainly increased, chiefly because of the concentration of modern sector growth in Jakarta. But inequality within rural areas, and between Java and the outer islands, appears to have diminished. There is no doubt that the great majority, even in the bottom 40 per cent of the income distribution, have experienced an improvement in material living standards. GDP per head, according to World Bank data, in 1980 passed the $400 mark which the Bank used to divide middle from low income countries. But this figure is deceptive. Indonesia is still a poor country, with a large proportion of the people living in poverty. Per capita household expenditure in rural Java, which contains half the population, is still within the range of $120-150. The average holding of those who own land in Java is only 0.5 ha, and estimates of landless (i.e. owning no cultivable land) range from one-quarter to one-third of the rural population.

In a country where only those who can rely on family support can afford to be unemployed, figures for open unemployment do not mean much. But a large proportion of the Indonesian labour force consists of "working poor", forced to work long hours for low wages or to scratch a living in intermittent low-income activity. With a work force growing, and expected to continue to grow, at about 2.5 per cent a year, the task of generating opportunities of productive employment for more than 2 million new entrants to the work force each year, as well as for the underemployed in the present work force, constitutes the most pressing longer-term problem for Indonesia's economic policy makers.

In the past two years, adverse trends in the world economy - prolonged recession in the OECD countries and the turnaround in the world oil market - have seriously worsened Indonesia's short- and medium-term economic prospects. For some time, there had been concern about Indonesia's capacity to maintain the volume of oil exports because growth of domestic consumption of oil products, such as kerosene and gasoline, at heavily subsidised prices, was eating rapidly into exportable surpluses. World Bank projections published in May 1981, which assumed that the real world price of oil would continue to rise at 3 per cent per annum through the 1980s, indicated a recurrence of balance of payments deficits in the latter half of the decade, unless policy measures were taken to restrain domestic consumption of oil products as well as imports and to stimulate non-oil exports. The ink on these projections was hardly dry when oil prices began to fall under the impact of a world glut caused by delayed response of supply and demand to the sixfold increase in price since 1973 and aggravated by the recession. As the official OPEC price fell from $34 per barrel in 1981 to at most $29 per barrel in 1983, Indonesia's current account balance moved from a surplus of over $2 billion in 1980-81 to a deficit of nearly $3 billion in 1981-82 and nearly $7 billion in 1982-83 (Table 1.2). Declining oil export earnings also threatened a sharp cut in net oil tax revenue.

Table I.2: Balance of payments, 1974/75, 1979/80-1983/84
($ million)

	1974/75	1979/80	1980/81	1981/82	1982/83 est.[a/]	1983/84 proj.
Exports	6,581	18,510	22,885	22,994	19,385	17,483
Oil and LNG (Gross)	4,548	12,340	17,297	18,824	15,630	13,182
Non-oil	2,033	6,171	5,587	4,170	3,754	4,301
Imports	-6,514	-13,205	-17,589	-22,635	-22,681	-20,502
Oil sector	-1,910	-2,940	-4,050	-5,407	-5,468	4,551
Non-oil imports	-4,341	-9,028	-11,837	-14,561	-14,803	-13,986
Non-factor services (net)	-263	-1,237	-1,702	-2,667	-2,411	-1,965
Factor Services	-205	-3,106	-3,165	-3,149	-3,466	-3,481
Public debt interest	-80	-635	-724	-820	-998	-1,271
Others	-125	-2,471	-2,441	-2,329	-2,468	-2,210
Balance on Current A/C	-138	+2,198	+2,131	-2,790	-6,762	-6,501
Capital Inflow						
Public M + LT loans						
Disbursements	(1,120)	(1,939)	(2,864)	(3,203)	(4,981)	(5,600)
Amortisation	(-212)	(-1,355)	(-987)	(-1,001)	(-1,376)	(-1,699)
Net disburesments	908	604	1,877	2,202	3,605	3,901
Grants	75	52	76	67	100	100
Direct Investment	538	217	140	139	276	350
Other (net)	-1,392	-1,381	1,488	-606	-499	2,420
Change in Reserves	9	-1,690	-2,736	988	3,280	-270
Memo Itens						
Net official reserves	920	4,606	7,342	6,354	3,074	3,344
Net foreign assets of banking system		6,906	10,787	11,154	6,674	6,144

Source: World Bank: Indonesia: Policies for growth with lower oil prices, May 12, 1983, Report No. 4279-IND.

a/ Preliminary statistics:

	($ million)
Exports	18,751
Oil + LNG (gross)	14,858
Balance on Current A/c	-6,715
Change in Reserves	3,280

The Indonesian Government reacted quickly and energetically to the immediate crisis. The oil price subsidy which had already been reduced in the two preceding budgets was cut further, both to relieve the budget and to discourage domestic consumption. Public sector wages and salaries were frozen for the second year in succession. The rupiah was again devalued (by 27.5 per cent), in the first instance to reverse capital outflow but also to offset the fall in oil tax revenue and to provide price incentives to non-oil exports. The public investment programme was drastically pruned, many large capital and import intensive projects being dropped, deferred or reduced in scope. To stimulate domestic resource mobilisation, the banking system was partially deregulated and a major tax reform prepared.

The past year has brought a considerably better economic performance than had been expected. Real economic growth in 1983 is estimated to have reached at least 4 per cent and the balance of payments position improved dramatically, from an overall deficit of US $ 40 million in 1982/83 to an estimated surplus for US $ 2 billion in 1983/84. These results partly reflect an unexpectedly quick response to the various measures undertaken to meet the crisis, particularly the March 1983 devaluation and the rephasing of capital projects which have brought a sharp fall in imports. Exports have also performed well, with oil producion rising from 1.4 mbd towards 1.6 mbd and some of the major non-oil exports, especially palm oil, textiles, plywood and handicrafts registering increases of 40-50 per cent. All these improvements reflect well on the quality of macroeconomic management in a critical situation.

However, Indonesia clearly faces leaner years. There is little reason to believe that world oil prices will rise in real terms before the end of the decade, and while LNG exports will help fill the gap, exportable surpluses of oil will inevitably decline and may disappear by the end of the century. The fourth Five Year Plan, due to come into operation on 1 April 1984, envisages a 5 per cent growth rate of GDP and 9.5 per cent of manufacturing, a good deal less than that achieved during the 1970s, yet even this will strain available external and domestic resources.

In order to keep external borrowing and debt within acceptable limits, it will be essential to promote non-oil exports and, where it can be achieved reasonably economically, further import substitution. At the same time, the pattern of economic development must give high priority to the generation of productive employment for the growing work force. For both these reasons, Indonesia's economic future depends crucially on an appropriate and efficient pattern of industrial development. The main burden of providing the jobs will inevitably fall on the service sector. But manufacturing can and must make a contribution.

Chapter II. The Industry Sector: Past Performance

2.1 Overview of the Manufacturing Sector[1]

Indonesia is officially designated a "lower middle income" developing country. In 1980, the share of the Indonesian large and medium manufacturing sector[2] in GDP was 10.3 per cent (at constant 1975 prices), compared with 6.8 per cent in 1970 and 6.3 per cent in 1960 (Figure I). The oil price increases of 1973/74 and 1979/80, by raising the value added of the mineral (oil) sector, reduced the contribution to GDP of all other sectors including manufacturing. Thus, the share of manufacturing in 1980 which had risen to 15.3 per cent at 1973 prices was only 8.8 per cent at current prices (Annex Tables 3 and 29).

Among other large developing countries, only Bangladesh and Nigeria had a smaller manufacturing sector (8 and 5 per cent of GDP at current prices respectively) (Figure II). By contrast, the shares were 29 per cent for the Republic of Korea and Hong Kong and 28 per cent for Singapore. In absolute terms, however, the Indonesian manufacturing sector has grown to a considerable size. Manufacturing value added amounted to US$ 6,154 million in 1980, slightly larger than in Thailand, Hong Kong and Nigeria (Figure III). Among the Asian developing countries, only the Peoples Republic of China, India (US $ 28.5 billion), Republic of Korea (US $ 17.4 billion), Iran (US$ 15.6 billion) and the Philippines (US $ 9.1 billion) had larger manufacturing sectors in terms of value added.

Another indicator of the level of industrial development which is perhaps less appropriate for large countries is manufacturing value added per capita. According to this measure, Indonesia's level of industrialisation is comparatively low, amounting to US $ 41 in 1980, equivalent to the figure in India. Among the countries represented in Figure IV, only Sri Lanka (US $ 30) and Bangladesh (US $ 11) had lower per capita figures.

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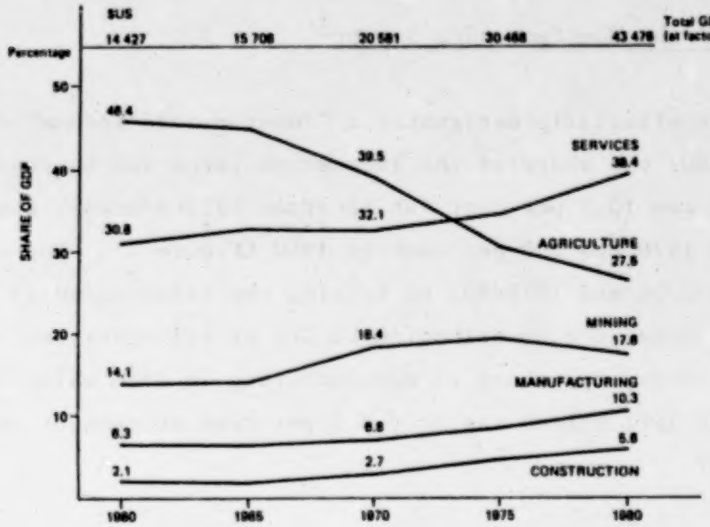
[1] Data used in this part are based primarily on UNIDO data sources. These sources are in turn based on data supplied by the Indonesian Government. However, UNIDO usually adjusts government sources to ensure international comparability and adherence to UNIDO standard definitions.

[2] Unless otherwise indicated, manufacturing refers to the modern organised sector of large and medium-scale enterprise with more than 20 employees.

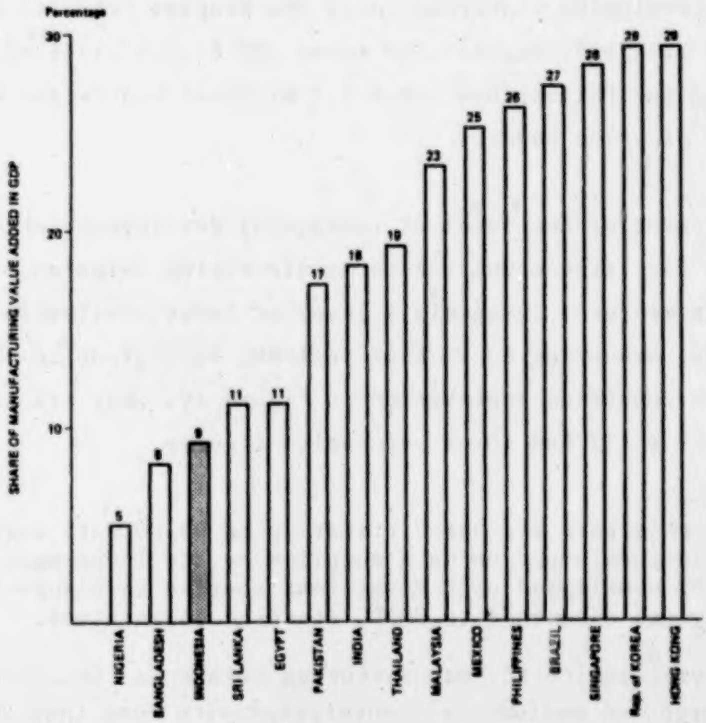
Figure I: Share of GDP by economic sector, 1960-1980[a/]



Source: UNIDO data base. Information supplied by the United Nations Statistical Office with estimates by the UNIDO secretariat.

a/ At constant 1975 prices in million US$.

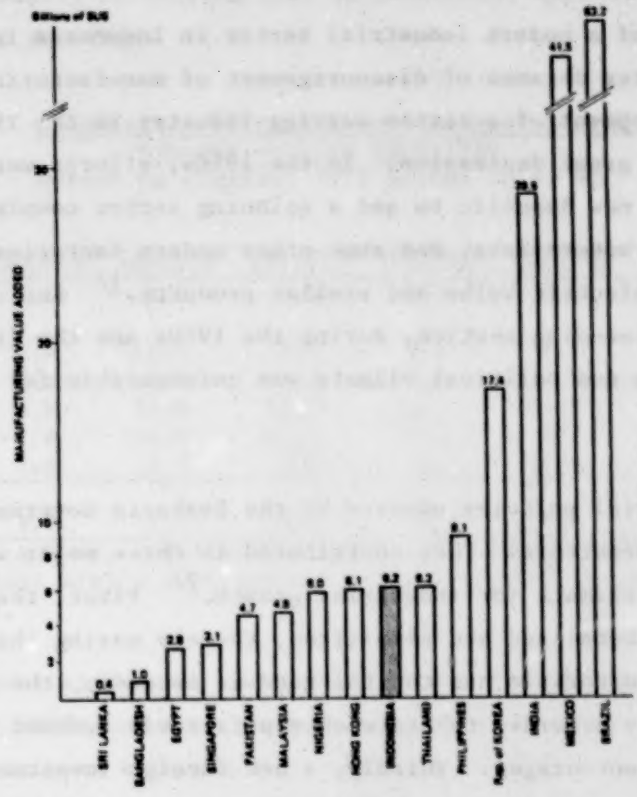
Figure II: Share of manufacturing value added in GDP 1980; selected Asian and large economies a/



Source: UNIDO data base. Information supplied by the United Nations Statistical Office with estimates by the UNIDO secretariat (Annex Table 1).

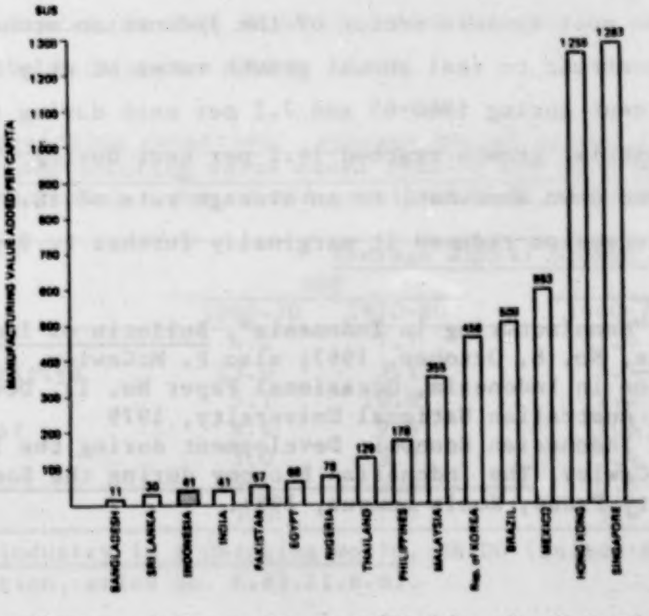
a/ At current prices.

Figure III: Manufacturing value added in billion US$ 1980; selected Asian and large economies



Source: UNIDO data base. Information supplied by the United Nations Statistical Office with estimates by the UNIDO secretariat (Annex Table 1).

Figure IV: Manufacturing value added per capita 1980; selected Asian and large economies



Source: UNIDO data base. Information supplied by the United Nations Statistical Office with estimates by the UNIDO secretariat (Annex Table 1).

2.2 Growth of Value Added in Manufacturing

The emergence of a modern industrial sector in Indonesia is of fairly recent origin. After decades of discouragement of manufacturing, the Dutch promoted the development of a cotton weaving industry in the 1930s, to counter the effects of the great depression. In the 1950s, efforts were made by the governments of the new Republic to add a spinning sector consisting mostly of aid-financed state enterprises, and some other modern factories producing tyres, batteries, electric bulbs and similar products.[1] But in general, as indicated in the preceding section, during the 1950s and the first half of the 1960s, the economic and political climate was unfavourable for industrial development.

The new industrial policies adopted by the Soeharto Government in 1966 marked a dramatic departure. They contributed in three major ways to an improvement of the climate for industrial growth.[2] First, the foreign trade regime was liberalised and simplified, thereby easing the supply bottlenecks of raw materials and capital goods. Secondly, the preferential treatment previously accorded to state enterprises was reduced and growth of the private sector encouraged. Thirdly, a new foreign investment law (1967) reversed the previous hostility to multinationals and offered tax and other incentives to foreign investors.

The new policies have provided a strategic framework for a marked acceleration in the growth of the manufacturing sector which has made it, next to construction, the most dynamic sector of the Indonesian economy since 1970 (Table II.1). In contrast to real annual growth rates of only 1.9 per cent in 1953-59,[2] 1.5 per cent during 1960-65 and 7.3 per cent during the recovery years 1965-70, industrial growth reached 14.2 per cent during 1970-75. During 1975-80 growth slowed down somewhat, to an average rate of 10.6 per cent, and the international recession reduced it marginally further to 9 per cent during

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[1] A. R. Soehoed, "Manufacturing in Indonesia", Bulletin of Indonesian Economic Studies, No. 8, October, 1967; also P. McCawley, Industrialisation in Indonesia, Occasional Paper No. 13, Development Studies Centre, Australian National University, 1979

[2] For a survey of Indonesian Economic Development during the 1970s, see A. Booth and P. McCawley, The Indonesian Economy during the Soeharto Era, Oxford University Press, Kuala Lumpur, 1981.

1980-81. Preliminary estimates indicate a growth rate of only 1.0-1.5 per cent in 1981-82, mainly reflecting cuts in government expenditures in response to the fall in oil revenues.

Table II.1: Indonesia: average annual rate of growth of GDP and various sectors 1960-1980
(based on constant 1975 prices in US $)

	1960/65	1965/70	1970/75	1975/80	1960/70	1970/80	1960/80
Agriculture	1.1	2.8	3.5	4.3	2.0	3.9	2.9
Mining and quarrying	1.8	11.3	9.5	5.0	6.4	7.3	6.9
Manufacturing	1.5	7.3	14.2	10.6	4.4	12.3	8.3
Utilities	8.8	12.8	12.7	11.5	10.8	12.1	11.5
Construction	-1.6	14.4	20.5	11.4	6.1	15.9	10.9
Services	2.8	5.3	9.8	9.6	4.0	9.7	6.8
Gross domestic product	1.7	5.6	8.2	7.4	3.6	7.8	5.7

Source: UNIDO Data Base, information supplied by the United Nations Statistical Office with estimates by the UNIDO Secretariat. (Annex Table 2).

By international standards, the growth of the Indonesian manufacturing sector during the 1970s has been quite remarkable. As Table II.2 shows, only six developing countries exceeded the Indonesian rate for the decade 1970-80, including Rwanda (25.7 per cent), Libya (24.3 per cent), Gabon (19.5 per cent), the Republic of Korea (16.6 per cent), Bangladesh (13.6 per cent) and Iran (12.8 per cent). The Indonesian manufacturing sector also made the sixth largest absolute contribution of 3.4 per cent to the overall increase in manufacturing value added of all developing countries during 1973-80; it was exceeded only by Brazil, Mexico, Republic of Korea, India, Iran and followed by Thailand and the Philippines (Table II.3).

Table II.2: Developing countries: average annual growth rates of GDP and manufacturing value added 1960-70 and 1970-80
(ranked in descending order of MVA growth 1970-80, selected countries)

	Average Annual Growth Rate			
	GDP		MVA	
	1960-70	1970-80	1960-70	1970-80
Rwanda	4.4	7.7	21.0	25.7
Libyan Arab Jamahiriya	23.0	3.1	9.1	24.3
Gabon	9.1	10.8	2.0	19.5
Korea, Republic of	8.6	9.5	17.6	16.6
Bangladesh	3.0	5.3	5.4	13.6
Iran	9.4	2.8	10.6	12.8
Indonesia	3.0	7.7	3.0	12.5

Source: UNIDO, *Industry in a Changing World*, UNIDO (United Nations publication, sales no. E.83.II.B.6).

Indonesia is thus an active partner in the world's industrial restructuring process. Internationally Indonesia's share of world manufacturing value added more doubled from 0.10 per cent in 1970 to 0.22 per cent in 1980. In other terms Indonesia's share of total value added of all developing countries increased from 1.18 per cent in 1970 to 2.0 per cent in 1980.[1]

The period in which the Indonesian manufacturing sector grew rapidly, especially 1969-75, provided particularly favourable conditions for industrial development for a number of reasons. The initial industrial base was small and shortages of many industrial goods implied a large potential demand. Much existing capacity needed only modest replacement and repair investment to be capable of adding quickly to industrial output. The foreign and domestic investment laws of 1967 created a favourable investment climate which generally benefited the manufacturing sector as a whole. Finally, there was still ample scope for import substitution, expecially in textiles and other mass consumption goods. Many of these conditions favourable to industrial progress have gradually petered out. Since the mid-1970s, therefore, the Indonesian manufacturing sector has confronted new circumstances, problems and challenges demanding adjustment to more complex conditions.

Table II.3: Contribution of selected developing countries to the increase of MVA of developing countries, 1973-80[a]
(based on costant 1975 US $)
(percentage)

Brazil	27.2
Mexico	11.2
Republic of Korea	8.3
India	7.2
Iron	3.6
Indonesia	3.4
Thailand	3.3
Philippines	2.8
Turkey	2.7
Egypt	2.5
TOTAL	72.2

Source: UNIDO Industry in a Changing World, UNIDO (United Nations publications, sales no. E.83.II.B.6).

a/ Based on data available for 97 developing countries.

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[1] Source: UNIDO data base. Information supplied by the United Nations Statistical Office with estimates by the UNIDO secretariat.

One pervasive difficulty was the emergence, especially after the first OPEC oil price increase in 1973/74, of a strong oil export sector which resulted in an appreciation of the real exchange rate. The combination of relatively high domestic inflation rates and unchanged nominal exchange rates from 1971 to 1978 put severe pressure on all non-oil traded goods industries. While the manufacturing sector benefited from government expenditure out of additional oil revenues and was given substantial shelter in the domestic market by tariff and other protection, its competitive position in export markets was weakened. Two successive devaluations of the rupiah, in 1978 and 1983, brought relief by improving, at least for a while, the competitiveness of Indonesian manufacturers but added to the problems of industries depending on imported raw materials or components.

2.3 Structural Changes in Manufacturing

The high rate of industrial growth during the 1970s greatly diversified the structure of the Indonesian manufacturing sector. As Table II.4 shows, there was very high growth in some branches which had been quite unimportant at the beginning of the decade, among them iron and steel, electrical machinery, other non-metallic mineral products (chiefly cement), rubber products and fabricated metal products. Medium growth occurred in industrial chemicals (chiefly urea), wood products (except furniture), glass products, and paper and paper products. As was mentioned before, many of these fast growing industries were relatively capital intensive. In contrast, some of the larger traditional industrial branches grew less rapidly, including food products, textiles, beverages and tobacco. Growth was also modest in industries producing transport equipment and other chemicals and in petroleum refining, but in the latter as in some other capital-intensive industries, large-scale expansion was still under way at the end of the period.

Diversification led to a marked structural shift in the composition of manufacturing value added. The traditional industries related to the agricultural sector - food processing (chiefly rice milling), beverages and tobacco - which in 1971 accounted for 63.8 per cent of total manufacturing value added, declined to 31.7 per cent in 1980 (Table II.5). The importance of the textile industry rose in the early 1970s but then declined to 12.4 per cent in 1980, a figure slightly below its share in 1971. Whereas in 1971 no other industrial branch exceeded 4 per cent of total manufacturing value added, by 1980 six new branches surpassed this figure, including other chemicals, wood products, transport equipment, other non-metallic mineral products, electrical machinery and rubber products. Fabricated metal products and iron and steel came close to it.

Table II.4: Manufacturing value added by branch of industry ranked according to average annual growth 1970-1980
(based on values in 1975 US $ constant prices)

ISIC		Average annual growth rate Percentage
	- High growth -	
3710	Iron and steel	50.2
3560	Plastic products	33.2a/
3230	Leather products	31.5a/
3830	Machinery electric	30.8
3690	Other non-metallic mineral products	28.7
3820	Machinery, except electrical	27.6a/
3420	Printing and publishing	24.3a/
3550	Rubber products	22.8
3810	Fabricated metal products	20.2
	- Medium growth -	
3510	Industrial chemcials	18.9
3320	Furniture, except metal	18.7a/
3310	Wood products, except furniture	17.6
3620	Glass and products	17.4
3410	Paper and paper products	16.1
3110	Food products	14.1
3220	Wearing apparel, except footwear	12.6a/
3850	Professional and scientific equipment	12.0a/
3900	Other manufactured products	12.0a/
3210	Textiles	11.8
	-Low growth -	
3240	Footwear, except rubber or plastic	10.1
3130	Beverages	9.7
3140	Tobacco	9.4
3530	Petroleum refineries	8.0
3840	Transport equipment	5.6
3520	Other chemcials	3.2
Total manufacturing		11.8

Source: UNIDO Data Base, information supplied by the United Nations Statistical Office, with estimates by the UNIDO secretariat. (Annex Table 4).

a/ 1970-76.

Table II.5: Structural changes of value added in manufacturing, 1971 and 1980 (percentage share in Rp. at current prices)

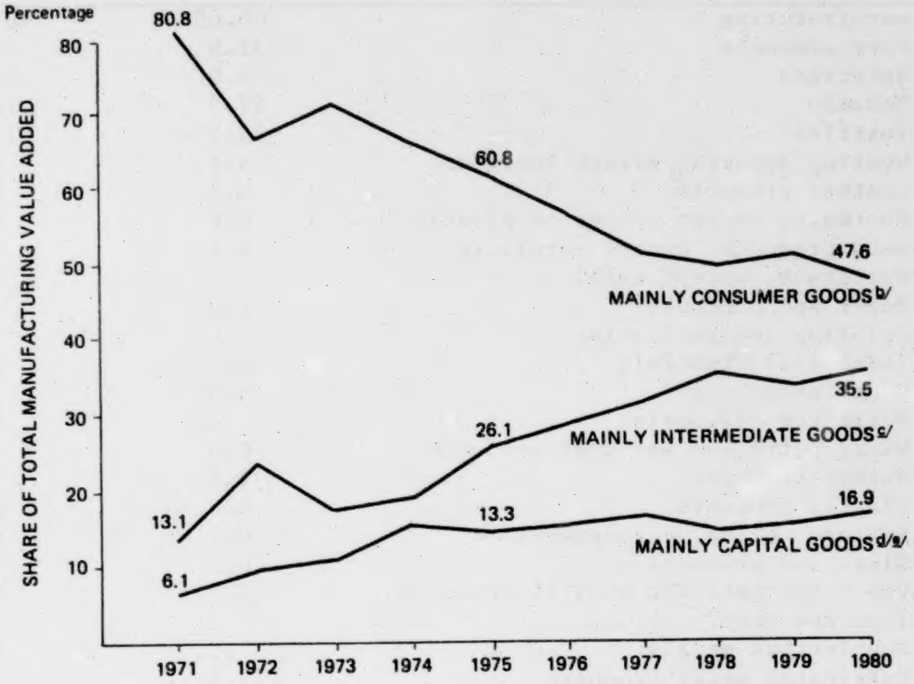
ISIC	ISIC-description	1971	1980
Total	manufacturing	100.0[a]	100.0[a]
3110	Food products	33.9	11.1
3130	Beverages	2.0	1.5
3140	Tobacco	27.9	19.1
3210	Textiles	13.2	12.4
3220	Wearing apparel, except footwear	0.1	0.4
3230	Leather products	0.3	0.2
3240	Footwear, except rubber or plastic	0.6	0.8
3310	Wood products, except furniture	1.4	7.0
3320	Furniture, except metal	0.3	0.2
3410	Paper and products	2.0	1.5
3420	Printing and publishing	2.0	1.5
3510	Industrial chemcials	0.8	4.3
3520	Other chemcials	3.8	7.1
3530	Petroleum refineries	...	...
3540	Misc, petroleum and coal products	0.0	0.0
3550	Rubber products	1.3	4.8
3560	Plastic products	0.5	0.7
3610	Pottery, china, earthenware	0.6	0.2
3620	Glass and products	0.5	1.1
3690	Other non-metallic mineral products	2.5	5.9
3710	Iron and steel	...	3.1
3720	Non-ferrous metals	...	0.0
3810	Fabricated metal products	2.3	3.5
3820	Machinery, except electrical	0.4	1.6
3830	Machinery electric	2.5	5.3
3840	Transport equipment	0.9	6.4
3850	Professional and scientific equipment	0.0	0.1
3900	Other manufactured products	0.3	0.4
Total	manufacturing in millions	135,990	2,130,000

Source: UNIDO data base, information supplied by the United Nations Statistical Office, with estimates by the UNIDO secretariat. (Annex Table 5).

a/ 3000 - excluding 3530.

The pattern of structural change in the Indonesian manufacturing sector can be analysed by classifying manufacturing value added roughly by end use as consumer, intermediate and capital goods (Figure V). As would be expected, there was a gradual shift from consumer goods in favour of intermediate and capital goods. From 1971 to 1980 the share of consumer goods in total manufacturing value added declined from 80.8 to 47.6 per cent, while the share of intermediate goods rose from 13.1 to 35.5 per cent and that of capital goods from 6.1 to 16.9 per cent.

Figure V: Structural change in Indonesian manufacturing value added a/
according to end use 1971-1980
(based on current Rp. prices)



Source: UNIDO data base, information supplied by the United Nations Statistical Office, with estimates by the UNIDO secretariat. (Annex Table 6).

a/ ISIC 3000 - excluding 3530.
b/ ISIC 3110, 3130, 3140, 3210, 3220, 3240, 3320, 3420, 3610, 3900.
c/ ISIC 3230, 3310, 3410, 3510, 3520, 3530, 3540, 3550, 3560, 3620, 3690, 3710 3720.
d/ ISIC 3810, 3820, 3830, 3840, 3850.
e/ Includes also some consumer durables.

In one important respect, however, the rough classification in Figure V is misleading. It includes among capital goods a range of products of engineering and assembly industries which produce predominantly durable consumer goods rather than producer goods. Among them are motor cars and cycles, sewing machines, refrigerators, air conditioners, TV sets and radios. Table II.6 presents a different classification in terms of output of physical units. It shows relative growth rates of output in four categories -

intermediate goods, capital goods divided into producer and predominantly consumer durables, and other (single-use) consumer goods. It confirms the general shift in the industrial structure towards relatively capital intensive intermediate goods at the expense of (single-use) consumer goods. It also shows that growth of most of the assembly industries producing consumer durables slowed down in the latter period, 1975-81. Both these trends reflect in part the slowdown in growth of domestic demand but also diminishing scope for further import substitution.[1/]

Annex 8 shows that import substitution has in the past decade considerably reduced the share of imports in the Indonesian market for nitrogenous fertiliser and (printing and writing) paper and has virtually eliminated imports of wheat flour (replaced by wheat imports), cotton yarn and woven fabrics, caustic soda and insecticides. Indonesia is now self-sufficient in most food products (except sugar and, for the moment, still rice, as well as some dairy products and tinned foods), textiles (except wool) and oil products. But she continues to rely on imports for most chemical and metallic intermediate products and (not shown in the table) most producer capital goods. Domestic production of the latter is limited, largely confined to diesel engines (69,400 in 1981/82) and hand tractors (1,074 in 1981/82).

These findings are largely corroborated by an examination of the "relative degree of specialisation" during the 1970s. This measure indicates the average value of the ratio between observed and expected level of manufacturing value added where the latter is derived from comparison with all countries (both developed and developing), developing countries and other large developing countries (Annex Tables 9 and 10). The expected values indicate how resource endowments, country size and level of income determine changes in the industrial structure over time. They indicate feasible, though not necessarily desirable or optimal growth patterns.[1/] The results confirm the low degree of overall industrial development in Indonesia (0.65 in relation to other large developing countries) but also the relatively high degree of industrialisation in some branches, such as petroleum refining,

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[1/] For an attempt to distinguish growth of demand and import substitution as sources of growth of manufacturing value added in the first half of the 1970s see H. Poot, The Development of Labout Intensive Industries in Indonesia in: The Development of Labour Intensive Industry in ASEAN, edited by Rashid Amjad, Asian Employment Programme, ILO, ARTEP, 1981.

Table II.6: Production of selected manufactures, 1968-80/1

	Unit	1968	1975/6	1980/1	Growth (Annual Rate)	
					1968-75/6	1975/6-80/1
Intermediate products						
Fabricated metal products						
Steel ingots	'000 tons		80[a]	397		123.0
Aluminum extrusion	'000 tons		2	8		27.9
Steel wire	'000 tons		43	143		27.1
Reinforcing iron	'000 tons		202	641		25.9
Aluminum plate	'000 tons		5	12		17.8
Zinc plate	'000 tons		145	294		15.2
Steel pipes	'000 tons		97	154		9.7
Chemicals						
Pesticides	'000 tons		9[a]	26		68.0
Fertiliser (urea)	'000 tons	96	387	1,985	21.0	38.7
Sulphuric acid	'000 tons		15	40		21.1
Acetelene	'000 m^3		241	512		16.2
Oxygen	'000 m^3		4,914	8,071		10.4
Other						
Paper	'000 tons	11	47	232	23.0	37.2
Cement	'000 tons	410	1,214	5,852	17.1	36.4
Sawn timber	'000 m^3		1,819	7,362		32.2
Cardboard	'000 tons		19	55		23.1
Electric/Telecomm. Goods	'000 tons	-	9[b]	19		20.5
Yarn	'000 bales	130	445	1,060	19.2	18.9
Glass (sheet)	'000 tons		62	106		11.3
Crumb rubber	'000 tons		398	611		8.9
Plywood	million sheets		525[a]	618		8.6
Unweighted Average (excluding steel ingots and pesticides)						28.5 (21.5)
Capital goods[c]						
Hand tractors	000 units	-	30[b]	877	-	132.5
Storage batteries	000 units	-	480[b]	3,320	-	62.2
Sprayers	000 units	-	20[b]	134	-	60.9
Aeroplanes	units	-	3[b]	12	-	41.4
Diesel Engines	000 units	-	8	34	-	33.6
Hullers	units	-	1,000[b]	1,868	-	16.9
Steel vessels	000 BRT	-	19[b]	28	-	10.2
Helicopters	units	-	13[b]	12	-	-2.0
Unweighted Average (excluding hand tractors)						44.5 (31.9)
Predominantly Consumer Durables[d]						
Colour TV sets	000 units	-	3[b]	99	-	139.7
Black and white TV sets	000 units	1	166	631	*	29.6
Refrigerators	000 units	-	10	135	-	26.6
Air conditioners	000 units	-	23	74	-	26.2
Radio cassette recorders	000 units	-	325[b]	617	-	17.4
Automobiles	000 units	2	79	170	*	16.6
Motor cycles	000 units	6	300	410	*	6.5
Radio sets	000 units	350	1,000	1,100	-	2.1
Sewing machinery	000 units	4	520	525	*	0.2
Unweighted Average (excluding colour TV sets)						29.5 (15.8)
Non-durable Consumer Goods						
Cooking oil	'000 tons	23	299	889	*	24.2
Glass bottles	'000 tons	6	32	77	27.0	19.0
Dry batteries	million	52	240	527	24.5	17.1
Textiles	million metres	373	1,017	2,027	15.4	14.8
Clothing	million dozen		14[a]	18		10.5
Electric bulbs	million		22	34		9.4
Detergent	'000 tons		35	54		9.4
Kretek	million packets	24	33	51	4.7	8.7
Cigarettes	million packets	15	24	33	6.9	7.3
Toothpaste	million tubes		108	123		6.8
Washing Soap	'000 tons		165	213		5.2
Matches	million boxes		780	586		-4.6
Unweighted Average						10.7

Source: Central Statistical Bureau, Jakarta.
See also Annex Table 7.

[a] 1979/80
[b] 1976/77
[c] Including manufacture assembly components
[d] Predominantly for private and government use.
* very high growth rate due to low base year.

non-metallic minerals (cement), transport equipment, textiles, rubber products, other chemicals (chiefly pharmaceutical products), food products and wood products (chiefly sawn timber and plywood).

2.4 Employment and Labour Productivity in Manufacturing.

While value added in large and medium-scale manufacturing in Indonesia grew during the 1970s at an average annual rate of over 12 per cent, employment rose by only 7 per cent, from 487,000 in 1970 to 963,000 in 1980. The difference reflects a significant growth in average labour productivity, but it also indicates the failure of manufacturing growth during the decade to have a significant direct effect on Indonesia's employment problem. The increase in the number of jobs found in large and medium-scale manufacturing of 0.5 million represents only one-fifth of the average annual increase in Indonesia's labour force during the period. Indirectly, of course, through the stimulus it has given to transport, trade, finance and other service employment, manufacturing growth has undoubtedly generated additional employment opportunities. Some additional employment may also have been generated in the highly labour intensive small-scale and cottage industry sector which is discussed in the last section of this chapter.

Table II.7 shows growth rates of real value added, employment and labour productivity in the various branches of (large and medium-scale) manufacturing during the decade 1970-80. The figures are in some respects incomplete and are liable to be misleading where value added has grown from a very small base. For what they are worth, they show that as much as 5 per cent of the annual growth of value added in the sector as a whole was accounted for by growth in labour productivity, leaving only 7 per cent for employment generation. The rate of growth of labour productivity was very high in some of the very capital intensive branches, such as non-metallic minerals (cement, 15.3 per cent), non-electrical machinery (17.1 per cent), fabricated metals (8.7 per cent) and industrial chemicals (chiefly urea, 8.1 per cent) and also, rather surprisingly, in food processing and textiles. It should be noted that

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1/ For a detailed description of concept and methodology of relative specialization and the country coverage of large countries, see UNIDO Handbook of Industrial Statistics, ID/284, E.82.B.2, 1982.

Table II.7: Average annual growth rates of value added, employment and labour productivity, 1970-80.

	Total	Value Added	Employment	Labour Productivity	Value Added per Employee 1980
		Annual Growth Rates (percentage)			'000 US $
3000	TOTAL	11.8	7.1	4.7	3.5
3110	Food	14.1	5.3	8.8	2.5
3130	Beverages	9.7	13.0	-3.3	7.1
3140	Tobacco	9.4	3.8	5.6	4.1
3210	Textiles	11.8	4.9	6.9	1.8
3220	Wearing apparel, except footwear	12.6	17.8	-5.2	0.9
3230	Leather products	31.5	6.8	24.7	1.7
3240	Footwear, except rubber or plastic	10.1	8.6	1.5	3.5
3310	Wood products except furniture	17.6	55.8	-38.2	4.1
3320	Furniture, except metal	18.7	12.9	5.8	1.0
3410	Paper and products	16.1	10.3	5.8	4.3
3420	Printing and publishing	24.3	5.0	19.3	2.6
3510	Industrial chemicals	18.9	10.8	8.1	10.5
3520	Other chemicals	3.2	7.3	-4.1	5.9
3530	Petroleum refineries	8.0	...	...	...
3540	Misc. petroleum and coal products	...	...	...	...
3550	Rubber products	22.8	20.6	2.2	4.4
3560	Plastic products	33.2	12.4	20.8	1.4
3610	Pottery, china, earthenware	10.1	27.5	-17.4	1.2
3620	Glass and products	17.4	10.9	6.5	4.0
3690	Other non-metallic mineral products	28.7	13.4	15.3	6.5
3710	Iron and steel	50.2	...	...	12.2
3720	Non-ferrous metals	...	...	...	...
3810	Fabricated metal prod.	20.2	11.5	8.7	2.9
3820	Machinery, non-elec.	27.6	10.5	17.1	4.5
3830	Machinery, electric	30.8	27.1	3.7	4.8
3840	Transport equipment	5.6	16.6	-11.0	7.3
3850	Prof.,Sci, equipment	12.0	...	...	2.2
3900	Other	12.0	-0.8	12.8	2.3

Source: UNIDO Data Base, information supplied by the United Nations statistical office, with estimates by the UNIDO Secretariat. (Annex Tables 11, 12, 13 and 14).

no data are available for some of the most capital intensive industries developed in the latter 1970s, especially petroleum refining and other petrochemicals, iron and steel and non-ferrous metals.

The last column in Table II.8 shows the level of labour productivity by industry branch, as measured by value added per employee, in 1980. Compared with the average of US$ 3,500 for the large and medium-scale manufacturing sector as a whole, very high figures are shown, as would be expected, for iron and steel, industrial chemicals, transport equipment, cement and other chemicals, but also for beverages and (at a lower level) paper, glass and electrical machinery. The lowest levels of labour productivity are in garments, pottery and furniture industries.

2.5 Geographical Distribution of Manufacturing

The most comprehensive data on the geographical distribution of large and medium-scale manufacturing at present available are those from the 1974/75 Census of Industry. They are deficient in that they do not include some of the most important industrial activities on the outer islands, those associated with the petroleum and natural gas sector, and because the past eight years have witnessed very large-scale development in these and other natural resource based industries (mineral smelting and plywood) in the outer islands. Both these deficiencies should be remedied when the results of the 1980/81 Census of industry become available. With this reservation, it is of some interest to examine the pattern that existed in 1974/75 (Annex Tables 16, 17 and 18).

Java accounted for 85 per cent of all medium and large-scale enterprises, for 86 per cent of persons engaged and for 83 per cent of value added (Annex Table 15). Another 12 per cent of value added was produced on Sumatra, leaving only 5 per cent for all the rest of the country. It is evident that in 1974/75 modern manufacturing remained (and to only slightly less degree remains) heavily concentrated on Java.

Even after making allowance for the distribution of population, Java is clearly much more industrialised than the other regions, primarily owing to better transport and other infrastructure, government and services. But the interaction is cumulative, in that the concentration of industry in turn promotes concentration of infrastructure investment and service industries. In Java, around 7 per thousand of the population were engaged in manufacturing in 1974/75, while in the outer islands the average was less than 2 per thousand. All efforts to decentralise industrial activity notwithstanding, rapid industrial growth during the 1970s has not lessened this imbalance.

The preponderance of Indonesia's natural resources outside Java, however, establishes a presumption in favour of the development of resource-based industries in the outer provinces, and a good deal of such development has undoubtedly occurred in the past decade. The Indonesian Government has, for this purpose, identified five regional industrial growth centres and has drawn up development plans for these regions, in Northern Sumatra, Southern Sumatra, South Sulawesi, East Kalimantan as well as Java-Bali.

Industrial estates and processing zones have also been set up in various regions to foster regional industrial growth. Apart from the industrial estate at Pulo Gadung (Jakarta), there are at present two others in Java, Rungkut Surabaya (East Java) and Cilacap (Central Java). Two further industrial estates are at an advanced stage of planning and implementation, in Medan (North Sumatra) and Ujung Pandang (South Sulawesi). Among others at a preparatory stage of study or development is one at Batam island, close to Singapore.

2.6 Ownership and Investment Pattern in Manufacturing

In 1974/75 almost one-half of the value added in the Indonesian manufacturing sector was produced by private domestic enterprises, but most of these were medium-size firms in the traditional branches of industry (Annex Table 18A). Their share in total value added has almost certainly declined markedly in the past eight years, while that of government enterprises and foreign-owned and foreign-government/joint ventures has increased.

Since the adoption of the domestic and foreign investment law in 1967, the manufacturing sector has attracted a good deal of foreign as well as domestic private investment. Table II.8 shows approved and realised foreign investment by industry during the periods 1967-75 and 1976-81. The share of manufacturing in approved foreign investment rose from 62.4 per cent in the earlier period to 75.6 per cent in the latter period, chiefly because of relative decline in large-scale planned investment projects in mining in the early years many of which did not reach full realisation. In regard to domestic investment the proportion channelled into manufacturing was 66 per cent for the 1967-81 period (Annex Table 19). The share of manufacturing in realised foreign investment expenditure was higher in the latter than in the former period but, somewhat surprisingly, the proportion of planned investment realised was below the average for all foreign investment. Among major

Table II.8 Approved and realised (implemented) foreign investment projects by sector, 1967-1981[a]

(Millions of $)

Sector	1967-75	1976	1977	1978	1979	1980	1981	Total		Implementation rate[d]
								Value	Project	
A. Approved foreign investment (all sectors)										
Agriculture, forestry and fishery	303.9	34.8	57.7	64.8	108.9	114.6	231.7	916.4	151	
-Agriculture	77.1	9.2	26.3	3.1	25.9	43.3	25.9	210.8	57	
-Forestry	178.3	18.4	28.7	38.6	42.7	68.9	184.2	559.8	70	
-Fishery	48.5	7.2	2.7	23.1	40.3	2.4	21.6	145.8	24	
Mining	1,046.6	10.9	200.5	43.0	150.0	3.0	1.8	1,455.8	16	
-Metal	895.6	10.9	200.0	26.9	150.0	---	1.8	1,285.2	6	
-Others	151.0	---	0.5	16.1	---	3.0	---	170.6	10	
Manufacturing	3,015.2	346.8	357.7	275.4	1,530.6	712.3	873.5	7,111.5	474	
-Food	122.4	70.9	8.4	5.5	66.9	15.6	40.5	330.2	47	
-Textiles + leather	887.8	31.1	71.1	114.6	103.4	79.8	141.9	1,429.7	73	
-Wood + wood products	37.8	5.5	---	1.0	6.0	11.2	123.6	185.1	20	
-Paper + paper prod.	31.1	66.3	9.7	0.4	10.5	2.4	48.5	168.9	12	
-Chemicals + rubber	289.4	28.3	79.3	25.4	365.1	281.7	275.5	1,344.7	134	
-Non-metallic minerals	357.4	71.4	98.3	19.7	78.7	22.1	20.1	867.7	32	
-Basic metals	1,084.9	11.6	18.4	9.9	854.9	---	80.6	2,060.3	23	
-Metal products	198.8	61.5	72.5	92.0	45.1	98.8	142.8	711.5	126	
-Others	5.6	0.2	---	6.9	---	0.7	---	13.4	7	
Construction	61.4	1.8	3.9	5.4	0.5	5.7	48.8	127.5	63	
Trade + hotels	154.7	13.1	7.0	9.7	3.0	38.6	---	226.1	15	
-Trade	11.0	0.7	---	---	---	---	---	11.7	3	
-Hotels	143.7	12.4	7.0	9.7	3.0	38.6	---	214.4	12	
Transportation + communication	40.7	4.2	---	---	0.2	32.5	0.1	77.7	18	
-Transportation	40.7	4.2	---	---	0.2	32.5	0.1	77.7	18	
-Communication	---	---	---	---	---	---	---	---	---	
Services	209.8	27.2	20.3	4.4	45.7	---	23.4	330.8	50	
-Trade serv.	195.1	27.2	20.3	2.4	45.7	---	23.4	314.1	39	
-Personal serv.	14.7	---	---	2.0	---	---	---	16.7	11	
	4,832.3	438.8	647.1	402.7	1,838.9	906.7	1,179.3	10,245.8	787	
B. Realised (implemented) foreign investment in manufacturing										
Manufacturing Total	1,425.4	301.2	186.2	267.0	192.0	235.4	243.5	2,850.7	386	40.1%
-food	125.6	10.8	11.9	14.9	7.1	7.4	15.8	193.5	40	58.6%
-textiles + leather	625.2	91.8	27.9	31.4	41.7	78.7	102.5	999.1	60	69.9%
-wood + wood prod.	16.1	4.6	1.4	0.4	0.1	3.3	2.2	28.1	8	15.2%
-paper + paper prod.	32.6	3.3	9.6	11.8	1.4	6.1	2.5	49.3	10	29.2%
-chemicals + rubber	192.2	45.7	28.0	71.7	44.8	32.0	44.5	458.9	117	34.1%
-Non-metallic minerals	139.5	71.3	42.9	9.0	3.2	30.0	30.9	326.8	23	37.7%
-Basic metal	81.1	30.7	27.8	37.8	47.5	23.9	7.9	256.7	19	12.5%
-Metal prod.	221.0	42.4	35.4	89.9	36.0	52.0	35.3	512.0	102	72.0%
-Others	10.2	0.6	1.3	0.1	10.2	2.0	1.9	26.3	7	196.3%

Sources: Bank Indonesia, Report for the Financial Year 1981/82 (approved investment). BKPM and Bea Cukai (Import) and Monthly Bulletin of Foreign Exchange Banks (cash in flows) (realised investments).

a/ After taking into account the cancellations and shifting of projects from foreign to domestic investment.
b/ Revised figures.
c/ Through September 1981.
d/ Ratio of approved to realised investment.

branches of manufacturing, textiles has shown by far the largest total and one of the highest realisation rates over the period as a whole (70 per cent), while the low realisation rate for basic metals (12 per cent) shows that some ambitious early plans did not reach fruition. Foreign investment showed the same tendency as public investment to concentrate on the capital intensive branches of the manufacturing sector in the latter period, with particularly large increases in chemical, mineral and metal processing and fabricating industries. The bulk of approved foreign investment in manufacturing originated in Japan and Hong Kong (Annex Table 20).

2.7 Exports and Imports of Manufactures

A striking feature of the Indonesian manufacturing sector is the small share of manufactures in total exports and the predominance of manufactures in total imports. The trade deficit in manufactures increased from US $ 3.6 billion in 1975 to US $ 6.4 billion in 1980. (Annex Table 21).

The significance of manufactures in Indonesia's exports varies with the definition adopted. A widely used broad definition which includes processed goods with only a small proportion of value added by manufacturing yields a figure of 13.4 per cent for the share of manufactures in total exports in 1980. But the share in total exports of items which would normally be regarded as manufactures, i.e. with a high degree of manufactured content, was only 2.3 per cent in the same year. Irrespective of the definition used, the share of manufactures increased only marginally during the 1970s. But it needs to be remembered that total exports increased greatly with the oil boom. In absolute terms there has been a quite impressive increase in manufactured exports, although it chiefly occurred in two spurts, 1978-79 and 1982-83.

The first of these, mainly in textiles, garments and electronic goods, reflected partly increased capacity and favourable demand conditions in world markets, but was stimulated also by tight domestic markets, which induced manufacturers to look actively abroad, and by the November 1978 devaluation. This boomlet, however, petered out in 1980 when the second oil price increase boosted domestic demand and raised the real effective exchange rate, thus worsening the international competitiveness of Indonesian manufactures. A second mini-boom got under way in 1982, chiefly concentrated on plywood and electronic assembly products (Table II.9). How substantial and enduring a stimulus it received from the March 1983 devaluation remains to be seen.

The Indonesian Government has been conscious of the need to promote non-oil exports, especially since the decline in oil export earnings that began in 1981. A National Agency for Export Development (NAFED) has been active for some years. More recently state enterprises have been encouraged to look for export markets. A counterpurchase policy was adopted in 1981, designed to promote non-oil exports by linking contracts with suppliers of capital equipment for overseas-financed development projects with equivalent purchases of Indonesian exports. The two devaluations of the rupiah of 1978 and 1983 also partly served the same objective.

Table II.9: Exports of manufactures, 1977-82
($ million)

	1977 (50%)	1978 First half	1979 First half	1982 First half
Labour Intensive Products				
Textile yarn	0.2	0.4	9.8	..
Cotton fabric	0.1	0.2	5.6	2.5
Woven fabric	0.1	0.1	55.6	14.5
Floor coverings	0.1	2.0	9.6	0.5
Electrical machinery	2.7	5.1	16.2	
Telecommunications app.	..	1.2	17.2	50.3
Other electrical app.	13.2	22.8	164.2	
Clothing	2.4	11.2	103.1	49.0
Leather	1.4	3.7	16.5	..
	20.2	46.7	397.8	116.8
Processed Timber				
Plywood and veneer	8.0	15.8	49.8	114.8
Wood manufactures	1.8	1.6	10.6	3.2
	9.8	17.4	60.4	118.0
Other manufactures				
Pharmaceutical	3.9	8.1	9.5	2.4
Essential oils	6.0	11.0	31.0	9.4
Pig iron	2.0	13.6	0.0	0.0
Iron rods	0.0	0.0	60.3	
Tubes and pipes	0.0	2.1	19.2	25.7
Iron and steel casings	0.0	0.0	10.1	
	11.9	34.8	130.1	37.5
Total (listed products)	41.9	98.8	588.3	372.3

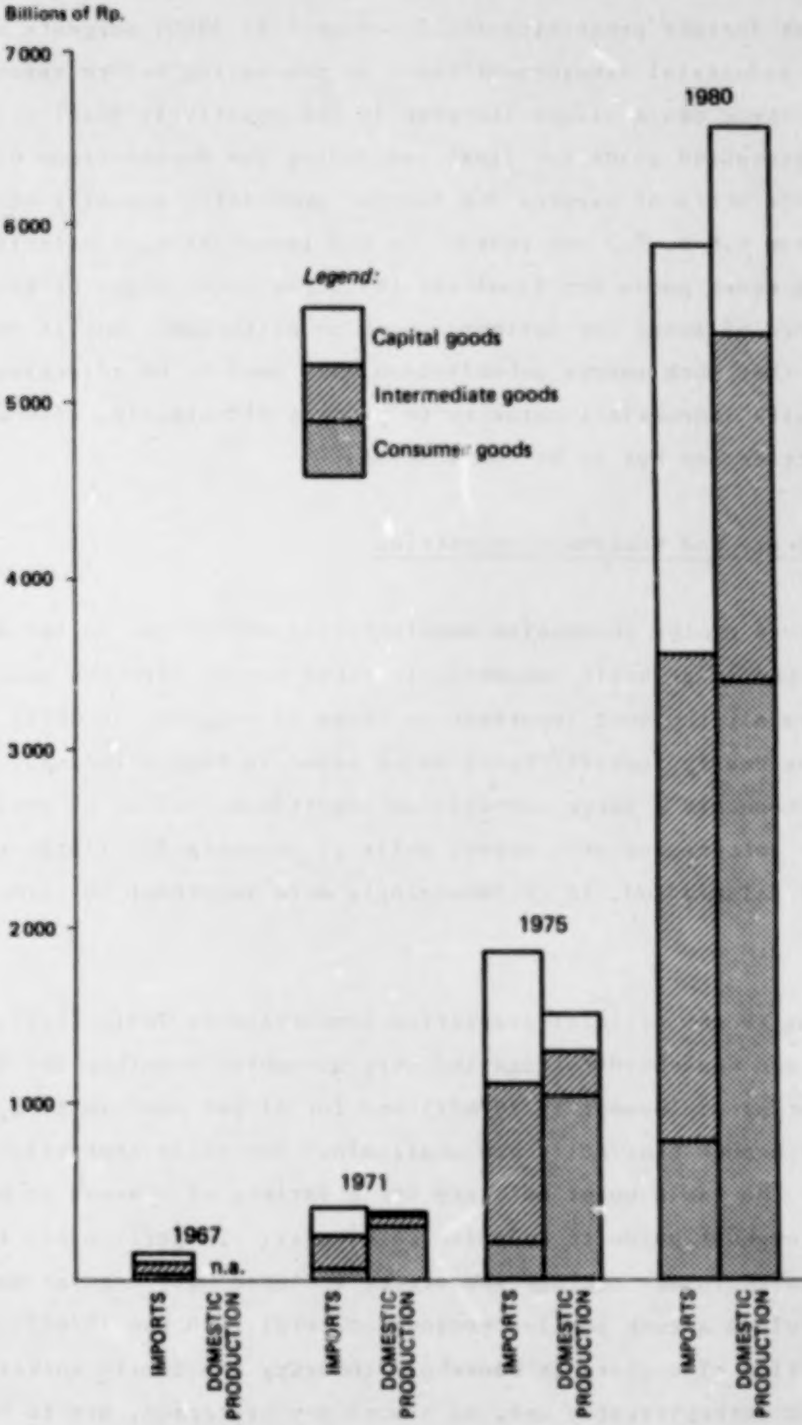
Source: 1977-79: Garnaut (1979, p.34); sawn timber has been omitted from the total.
1982: Central Statistical Bureau, Ekspor Jan-Juni 1982.

The limited role of manufactured exports epitomises the inward-looking character of the Indonesian manufacturing sector (Annex Table 22 and 23). It contrasts in this respect with many other Asian developing countries where exports of manufactures have performed an important function as a driving force in the industrialisation process. The performance of the four east Asian NICs is best known but, (as Annex Table 32 shows), several other Asian developing countries have also recorded much higher shares of manufactures in exports than Indonesia.

Despite the rapid industrial growth of the 1970s and the considerable progress in import substitution for particular categories of manufactures which was noted above, Indonesia's overall dependence on imports of manufactures has risen rather than fallen during the period. Whereas in 1971 imports of manufactures had been equivalent in value to 11.2 per cent of GDP, by 1980 the ratio had risen to 13.3 per cent, largely a reflection of the tendency of total imports and especially imports of capital goods to keep up with rising availability of foreign exchange. But, as Figure VI shows, by 1980 domestic production of manufactures had surpassed imports, a landmark of a kind. Somewhat surprisingly, the commodity composition of imports classified by end use showed some rise in the share of consumer goods at the expense of intermediate and capital goods, while domestic production underwent a more substantial change in the opposite direction with a tripling in the share of capital goods, from 5.7 per cent in 1971 to 17.6 per cent in 1980 (Annex Table 24). It must again be noted, however, that the bulk of domestically produced capital goods were predominantly consumer durables.

As regards the geographical pattern of Indonesia's trade in manufactures, the main countries of origin of Indonesian imports were the developed market economies, particularly the EEC and Japan, which together provided 85 per cent of imports of manufactures (narrow definition) (Annex Table 25) in 1980. The main markets for Indonesia's exports of manufactures (narrow definition) were other developing countries (65.3 per cent), followed by EEC (15.0) and Japan (8.4 per cent) (Annex Table 26). But the share of developing country markets in this classification is inflated by the practice of classifying as exports to Singapore a substantial volume of trade (especially of electronic goods and plywood) for re-export to the USA and other developed country markets.

Figure VI: Imports and domestic production of manufactured goods by end use 1967-1980
(billion. Rp. current prices)



Source: Annex Table 24.

An examination of exports and imports according to stage of processing reveals some potential linkages between trade and industrialisation (Annex Table 27). On the export side, the high though declining share of raw materials for further processing (72.1 per cent in 1980) suggests a potential for further industrial development based on processing before export. In fact, while there was a slight increase in the relatively small volume of exports of processed goods for final use during the decade (from 4.7 to 7.5 per cent), the share of exports for further processing actually declined slightly (from 6.6 to 5.3 per cent). On the import side, similarly, the high share of processed goods for final use (69.3 per cent) might be taken as *prima facie* evidence of scope for further import substitution. But it need hardly be stressed that such import substitution will need to be selective, in accordance with Indonesia's capacity to process efficiently, if downstream local industries are not to be handicapped.

2.8 Small-Scale and Household Industries

This survey of the Indonesian manufacturing sector has so far dealt only with medium and large scale industry, in other words, with the modern sector. This is certainly the most important in terms of output. In 1979, it accounted for nearly four-fifths of value added in manufacturing. But there is also in Indonesia a large and diffuse traditional sector of small-scale and household or cottage industry which, while it accounts for little more than one-fifth of value added, is overwhelmingly more important in terms of employment.

According to the official statistics summarised in Table II.10, small-scale and household-cottage industry accounted together for 87 per cent of manufacturing employment in 1974/75 and for 81 per cent in 1979, the last year for which such statistics are available. But these statistics, as the footnotes to the table point out, are for a variety of reasons to be taken as merely the roughest guide to relative magnitudes. In particular, the 1979 survey of household and cottage industries included only regular workers and therefore yielded a much smaller employment total than the 1974/75 Census. A large proportion of workers in household industry are family workers working part-time and intermittently and, by almost any criterion, are to be regarded as underemployed. Similarly, the apparent increase in the number of small-scale (and probably also household-cottage) enterprises between 1974/75

Table II-10. Manufacturing Sector, by Size of Enterprise, 1974/5, 1979

	1974/5				1979				1980	1981
	LM	S	HC	Total	LM	S	HC	Total	LM	LM
1. Number of enterprises ('000)	7	48	1,235	1,290	8	113	1,418	1,539	8	8
2. Persons engaged ('000)	662	343	3,900	4,895	870	827	2,795	4,492	977	1,012
3. Value added (Rp. billion)	476	53	83	613	1,660	187	291	2,139	2,149	2,722
4. Gross output (Rp. billion)	1,294	158	201	1,653					6,904	8,299

Source: BPS, Census of Manufacturing Industries 1974/5
BPS, Small-Scale Industries 1979

a. Several weaknesses in the data should be noted. Firstly, large and medium firm data are for 1974. Data for small firms are for 1975. Data for cottage firms are for August 1974 to July 1975. The data for value added, however, has been deflated to 1974 prices by deflating data for small firms by 20 per cent and for cottage firms by 10 per cent. Secondly, BPS officials suspect that coverage of the small and cottage firms, especially, may have been rather poor and that the estimates (particularly the value added estimates) for these two groups may be substantially understated. Thirdly, while all large, medium and small manufacturing establishments throughout Indonesia were intended to be included in the Industrial Census, cottage firms in rural areas in the following provinces were not covered: Nusa Tenggara Timur, Kalimantan, Timur, Kalimantan Tengah, Sulawesi Tengah, Sulawesi Tenggara, Maluku, Irian Jaya, and the island areas of Riau. It was felt 'that this would not seriously affect the results at the national level' (McCawley, op cit., p. 15.)

b. The increase in the number of enterprises, employment and value added for SE's between 1974/75 and 1980 reflects an improvement in coverage of this type of enterprises rather than a genuine expansion.

c. The 1979 survey of household and cottage industries was based on a household survey and was carried out in the general framework of the national social economic survey programme. It is uncertain to what extent its results can be compared with the household and cottage industry data generated by the 1975 industry census. For example, in terms of workers this survey definition was limited, including only regular workers. It therefore, probably excluded many of the part-time workers which were included in the 1975 census.

and 1979 reflects little more than improvement in statistical coverage. The sober truth is that very little is known about the small-scale and household cottage sector that lends itself to statistical analysis.

This is not to say, however, that the small-scale and household-cottage sector can be neglected in industrial policy. As one authority has put it, "the extreme heterogeneity of the Indonesian manufacturing sector - average value added per worker in the large and medium firms is almost forty times higher than in the cottage firms - poses a dilemma for Indonesian planners. Employment and anti-poverty objectives suggest that considerable resources should be devoted to helping the 'submerged' cottage sector about which so little it known, while growth objectives are more likely to be served by concentrating on assisting large firms."[1/]

Even in relation to production of capital goods, the small-scale and household-cottage sector is not entirely negligible. As Table II.11 shows, almost one-half of each sub-sector, small-scale and household-cottage, is concerned with food processing (especially rice milling, but also in rubber, coconut oil and other estate and small holder products). A considerable proportion of the rest consists of handicrafts (batik, wood and stone carving, etc.) and, in the case of small-scale enterprise, of production of tiles, bricks, charcoal, etc. But there is a significant volume of small-scale production of metal products, such as hand tools and small agricultural machines, as well as vehicle components and repair, which needs to be borne in mind in any policy consideration of the capital goods sector.

[1/] P. McCawley, Industrialization in Indonesia. Occasional Paper No. 13, Development Studies Centre, Australian National University, Canberra, 1979, pp. 15 f.

Table II.11: Percentage distribution of value added in small-scale (1979) and household and cottage establishments (1974)

Sector		Small-scale	Household/ cottage
311/312	Food	42.0	43.7
313	Beverages	0.9	0.2
314	Tobacco	1.2	1.3
321	Textiles	9.1	5.9
322	Clothing	2.4	1.7
323	Leather	1.1	0.4
324	Footwear	1.3	0.7
331	Wood products	9.5	21.1
332	Furniture	6.1	0.2
341	Paper	0.1	0.2
342	Printing	2.4	0.3
351/352	Chemicals	2.8	0.5
355	Rubber products	0.5	0.4
356	Plastics	1.4	0.5
361	Pottery	0.2	0.1
363	Cement and prod.	3.3	1.3
364	Struct. clay products	6.0	8.8
369	Other building materials	0.4	0.4
381	Metal products	4.5	3.1
382/383	Machinery	0.7	1.0
384	Transport equipment	2.2	0.5
385/390	Other manufacturing	1.1	2.0
Total		100.0	100.0

Sources: BPS, Small-scale Industrial Industries, 1979.
BPS, Census of Manufacturing Industries, 1974/75.

Chapter III. The Industry Sector: Prospects

3.1 Introduction

The purpose of this chapter is to examine prospects and strategies for industrial growth in Indonesia during the decade of the 1980s. One of the conditioning factors for the prospects is Indonesia's volatile external economic environment. One of the major considerations that must influence industrial strategy is Indonesia's pressing employment problem.

Demand for the products of Indonesia's manufacturing sector is determined by three factors. One is the size and composition of total domestic demand for manufactures; the second is the relative share of imports in the domestic demand for manufactures; the third is the size and composition of manufactured exports. The second and third of these will depend on the development of the comparative advantage enjoyed by Indonesian manufacturing industries relative to their foreign competitors.

The next five sections deal in turn with the growth prospects for the manufacturing sector as a whole, with prospective changes in comparative advantage, with prospective changes in the composition of domestic demand for manufactures, with priorities in industrial strategy and with sectoral growth projections.

3.2 Growth prospects for the manufacturing sector[1]

During the 1970s, manufacturing employment and value added grew at an annual rate of 5.3 and 14.9 per cent, as compared with 3.0 and 8.1 per cent for the economy as a whole (Annex Tables 28 and 29).[2] These figures imply an employment elasticity with respect to output growth of 0.36 for manufacturing and 0.37 for the whole economy.

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[1] In this Chapter manufacturing includes, in addition to the modern sector, also small-scale and household cottage industries. Data are therefore not entirely comparable with Chapter II which is confined to large and medium enterprises.

[2] Although these growth rates and shares were calculated in terms of 1973 constant prices and, in the rest of the report, 1975 constant prices were used, it is a simple matter to adjust the former to the latter. Our use of 1973 constant prices here was dictated by the adoption of BPS data and the definition used therein.

The increase in Indonesia's labour force was, by and large, fully absorbed during the 1970s. Although the additional employment opportunities were, in part, of relatively low quality, this represented a major achievement. The greatest challenge to the economy in the coming decade is to find productive employment opportunities to match the growth of the labour force, as well as raising as far as possible the quality of employment for those at present underemployed. Assuming an unchanged participation rate, the annual rate of growth of the labour force is expected to be 2.6 per cent.

The fourth Five Year Plan assumes an annual rate of growth of GDP of 5 per cent. Clearly, such a growth rate through the 1980s would be inadequate to absorb the new entrants to the labour force unless the employment elasticity can be substantially increased (With an unchanged employment elasticity of 0.37, a 5 per cent rate of growth of GDP would yield an increase in employment at an annual rate of only 1.9 per cent. Or, to put it another way, to achieve a growth rate of employment of 2.6 per cent, with an employment elasticity of 0.37, would require a growth rate of GDP of 7 per cent). A growth rate of GDP of 6 per cent could meet the employment challenge if employment elasticity were to rise to 0.43. Some such rise is possible if, as seems likely, the average labour-intensity of production increases with a decline in the relative importance of the oil sector. In addition, more emphasis on the export of labour-intensive manufactures would raise average labour-intensity of production.

What are the implications of these figures for manufacturing development? Experience of other developing countries at Indonesia's present stage of development suggests an elasticity of manufacturing output growth with respect to GDP growth of 1.5 , and there are reasons to believe that some such relationship will hold for Indonesia in the 1980s. In other words, for GDP to grow at 5 per cent, manufacturing output must grow at 7.5 per cent.

The question presents itself whether domestic demand for manufacturing can be expected to provide a market to absorb output of manufactures growing at this rate. Between 1975 and 1980, GDP grew at an annual rate of 7.5 per cent and domestic demand for manufactures at 10 per cent giving an income elasticity of around 1.3. If this value holds during the 1980s, a growth rate of GDP of 5 per cent, would yield a rate of growth of the domestic market for manufactures of only 6.5 per cent, not enough to absorb the hypothesised output growing at 7.5 per cent. To ensure an adequate growth of demand, the gap must be filled by either further import substitution or preferably by a sufficiently rapid growth of exports of manufactures.

At first sight, it does not matter which of these two ways supplementing growth of domestic demand is chosen. But employment considerations may argue in favour of exports. If, as seems likely, the manufacturing sector has an employment elasticity (labour intensity) below the average for the economy as a whole, faster growth of manufacturing output than of GDP as a whole will tend to reduce average employment elasticity and thus aggravate the employment problem. Yet, as has just been pointed out, manufacturing will almost certainly have to grow considerably faster than GDP as a whole if the target rate of growth of GDP (and employment) is to be attained. One way of resolving this dilemma, or at least alleviating it, would be a strong emphasis on relatively labour intensive manufacturing which, as will be shown below (section 4.3), is most likely to be feasible by means of an export oriented strategy.

For the purpose of projecting prospects and indicating policy options during the 1980s for the manufacturing sector in general and the capital goods industries in particular, an intermediate assumption of a growth rate of GDP of 6 per cent has been made in this study. Given the same elasticity of manufacturing output growth (1.5 per cent), this would imply an annual growth rate of manufacturing output of 9 per cent. To absorb this output, given an income elasticity of demand for manufactures of only 1.3, even more emphasis on import substitution and/or export promotion will be needed. On the other hand, the more ambitious GDP growth rate target would, with an unchanged employment elasticity of 0.37, get closer (2.2 per cent) to the projected growth rate of the labour force of 2.6 per cent.

3.3 Prospects for development of comparative advantage

To make reliable projections of any country's future comparative advantage at a highly disaggregated level is hardly possible. But it may be helpful in assessing likely trends in the pattern of Indonesia's future comparative advantage in manufacturing to draw on the experience of other developing countries with repect to their manufacturing export performance.

The first generation, after Japan, of the newly industrialising countries of east Asian (NICs) which achieved spectacular growth of export of labour-intensive manufactures in the 1960s and early 1970s have since the mid-1970s embarked on the transition from labour to capital and skill intensive products. Their success in this strategy will be relevant to Indonesia and other countries of the region because it will influence the extent to which markets for labour-intensive exports will be vacated. The second generation of NICs includes three of Indonesia's ASEAN partner countries: Malaysia, Philippines and Thailand. All three began intensive efforts to promote manufactured exports in the early 1970s. Malaysia has, with its relatively open economy, gone furthest in promoting exports. In doing so it has relied heavily on export-processing zones and foreign investment. The Philippines and Thailand have followed in Malaysia's footsteps with some years lag.

Annex Table 30 presents data on exports of manufactures for these countries in 1967 and 1975. It shows that in Malaysia almost one-half of the growth in non-resource based manufactured exports was accounted for by various types of light machinery and precision instruments. The share of textiles and clothing amounted to only 3 per cent. Most of the high-growth categories were produced by foreign companies under international sub-contracting arrangements. In the Philippines and Thailand the composition of exports of manufactures remains more traditional. In Thailand much of the growth in exports of manufactures was accounted for by textiles and clothing, as well as precious stones and printed matter. In the Philippines clothing and handicrafts were the most important non-resource-based categories.

Indonesia's opportunities of developing exports of labour-intensive non-resource based manufactures will depend significantly on the competition she will encounter from other Asian developing countries. Competition from the first generation of Asian NICs will diminish as they continue to shift into capital and skill intensive lines. The Republic of Korea alone, which has been exporting in 1975 ten times as much textiles in value as Malaysia, Thailand and the Philippines combined would, by vacating such labour intensive lines, create considerable export opportunities for countries such as Indonesia. Indonesia, however, will need to contend with a new generation of industrialising Asian countries likely to look for export markets for similar labour-intensive products. Among them, the most formidable may be the People's Republic of China, as well as India and other countries of south Asia.

Four other sets of data may help throw further light on the characteristics of manufacturing industries in which Indonesia is most likely to have a comparative advantage.

The first is taken from a UNIDO study[1/] which 1975 export values at 3-digit (and some 4-digit) SITC categories for a group of 74 developing countries, and three samples of developed, NIC's and developing countries have been divided into resource-based and non-resource based industries, ranked by value of exports (Annex Table 31). The table shows, as might be expected, that the share of resource-based exports declines with stage of economic development, from 60.3 per cent for other developing countries to 36.5 per cent for NICs and 30.4 per cent for developed countries. The comparative advantage due to high levels of total factor (capital plus labour) productivity which the more highly industrialised countries obtain from their endowment with human capital (skills, management, technology), less developed countries are most likely to derive from endowment with natural resources. Indonesia is still clearly in the latter category.

The second set of data, in Annex Table 32, compares levels of wages and labour productivity in selected industries in Malaysia, the Philippines and Indonesia in 1974. It shows that wage levels in Indonesia were very much lower than in Malaysia and only two-fifths even of those in the Philippines. But the potential comparative advantage which Indonesian manufactures enjoyed on account of low wages was largely offset (and in some industry groups outweighed) by low levels of labour productivity. In three of the six industry groups (wood, furniture, leather) the ratio of value added to wage was lower in Indonesia than in either of the other two countries, and in the other three (and total industry) lower than in one or the other. Since 1974, the wage differential between Indonesia and the Philippines has probably narrowed (wages rising in Indonesia, but not in the Philippines), but whether there has been a compensating relative gain in labour productivity in Indonesia cannot be demonstrated from available data.

1/ UNIDO, World Industry in 1980, New York 1981.

A possible explanation for the higher levels of labour productivity in Malaysia and the Philippines than in Indonesia is greater average capital intensity of industry. More likely the main explanation is to be found in other factors, such as relatively lower average levels of skill, management and organisation of production, for which the regulatory environment may be partly responsible. The conclusion to which this evidence points is that Indonesia cannot be assumed to have an automatic and across-the-board comparative advantage in labour-intensive industries. Her potential advantage due to low wage levels will only be realised in industries and plants which can show internationally comparable levels of labour productivity.

The third set of data is presented in Annex Table 33 which shows imports by the USA and other developed countries of selected labour-intensive goods and the share of LDCs in these imports. The table shows commodities for which developing countries' shares in the developed countries' imports recorded the largest increases over the period 1965-75. The commodities are ranked according to size of increase. Miscellaneous manufactures (SITC 8) are quite well represented in the list of most successful products. Among them are umbrellas (SITC 89940), leather clothing (84130) and carved manufactures (89910). Annex Table 34, by contrast, represents labour-intensive products which have performed poorly. Manufactured goods (SITC 6) and machinery and transport equipment (SITC 7) show a disproportionately high representation in this list. Some examples are precious stones (66700), textile bags (65610), mechanical goods nec (71980) and agricultural machinery (7120).

Finally, Annex Table 34 presents UNIDO data on product characteristics of 134 manufacturing industries and the development of revealed comparative advantage (RCA) in export for three country samples during the period 1966/7 - 1975/6. The data are classified according to the following typology.

The first product characteristic, RES, refers to the distinction between resource-based (R) and non-resource-based (blank) industries. The performance of resource-based industries, being dependent on natural endowment, cannot be regarded as related to the development process. UNIDO therefore classified with respect to RCA only non-resource-based industries. Three product characteristics are identified as likely determinants of comparative advantage. One is skilled-labour requirement (SK). The second is product development (PD). The third is factor intensity (L or K).

The classification rests on the hypothesis that comparative advantage in exports of manufactures depends, apart from differences in factor proportions, chiefly on skill requirements and on the degree to which the production process is standardised. An industry with relatively high skilled labour requirements will tend to manufacture "new products". Industries producing "new products" will tend to have relatively high skill labour requirement as compared with industries producing "mature products". It seems reasonable to assume that less developed countries will have a comparative advantage in production of the latter. Again, industries may differ in the degree to which producers are able to alter their product characteristics quickly in response to a change in demand or to achieve significant product differentiation. It is likely that developed countries have a comparative advantage in industries with a high degree of product development in this sense.

The three type code columns in Annex Table 34 classify non-resource-based industries according to high (H) or low (L) skill requirements (SK), product development (PD) and capital (K) or labour (L) intensity. In the last three columns data on RCA are presented for the three distinct samples of countries (as in the first set of data above). As indicator of RCA, the export performance ratio (EP) is used. This does not consider import flows which are often substantially affected by the importing country's specified trade policies. (The EP ratio is defined as the relative share of exports of commodity x in a country's total exports of manufacturing as compared with the share of world exports of that commodity to total world exports of manufactures.) Values above unity therefore reflect the fact that the industry's share in the given country's manufactured exports is above the world average. The higher the EP index value, the stronger is the revealed comparative advantage of the country in that industry.

Non-NIC developing countries, such as Indonesia, are liable to have a comparative advantage in primary-product exports rather than in manufacturing, and within manufacturing in resource-based rather than non-resource based products. But within the non-resource-based range of manufactures, their comparative advantage is most likely to be in industries characterised by a low skilled-labour requirement (SK = L), a low rate of product development (PD = L) and high labour intensity (FI = L). The development of RCA over time of such countries may be expected to move generally towards that of NICs and developed countries. The most developed countries are typically characterised by SK = H, PD = H and FI = K. But these are only general tendencies to which there are many exceptions.

The best indication of non-resource-based industries in which Indonesia can expect to acquire RCA is provided by the last column in the table. Industries in which, over the period 1965-76, the sample of non-NIC developing countries has shown a clear and at least not a substantially deteriorating comparative advantage, are likely candidates in this respect. In the medium term, Indonesia may also acquire RCA in industries in which the sample of NICs has shown a clear RCA during the period 1965-76.

3.4 Future Composition of Domestic Demand for Manufactures

As far as domestic demand is concerned, private consumption constitutes an important component. Demand from this source is primarily influenced by population growth and by changes in income. The latter factor can have significant influence on the pattern of consumption. Income related changes in consumption can be broadly represented by income or consumption elasticities.

Estimates of consumption elasticities of selected goods for Indonesia are presented in Annex Table 35. As is to be expected, it shows that elasticities for simple food items are generally low. However, for a number of processed foods elasticities can be fairly high. Elasticities for non-food consumer goods are usually higher than 1 and are highest for luxury and durable consumer goods.

Possibly a more general picture of future structural changes in the manufacturing sector can be derived from experiences in other similar countries. A UNIDO report [1] presents growth elasticities (with respect to per capita GDP) and size elasticities (with respect to population) of value added per capita for 3-digit ISIC industries, which were obtained from cross section data for large countries, including developing and developed countries. These elasticities have been listed in Annex Table 36.

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[1] UNIDO World Industry Since 1960; Progress and Prospects, United Nations, New York, 1979.

An examination of the size elasticities of Annex Table 37 reveals that increases in the market size have little effect on production in most cases. In many cases these elasticities are negative, indicating that increases in output are less than proportional to increases in market size, so that per capita output declines. Branches for which market size is important include industries for which large production runs and economies of scale are crucial, for example, machinery, professional equipment, iron and steel and chemicals. In these industries, other factors being equal, Indonesia has a certain advantage as compared to smaller countries at similar stages of development because of the size of its domestic market.

The range of growth elasticities indicates that slow growing industries are likely to include food processing, beverages and tobacco, textiles, leather, footwear, wood processing and pottery. The highest growth elasticities occur in the more capital intensive industries producing intermediate products and capital goods.

3.5 Priorities in Industrial Strategy

Official Targets. Since 1969, the Government of Indonesia has included in its Five Year plans objectives of industrial development. These objectives have undergone substantial shifts in emphasis. In Repelita I priority was assigned to industries ancillary to food production and agriculture generally, such as fertiliser, as well as rehabilitation and development of the older import-substitution industries, such as textiles. In Repelita II priorities shifted, with a greater emphasis on social objectives, especially employment creation and protection of pribumi enterpreneurs. Repelita III, with the financial resources provided by the oil boom at hand, widened objectives to include broad-based industrial development on the basis of domestic oil, mineral, timber and other natural resources and the promotion of labour-intensive manufactured exports.

In Repelita IV manufacturing is expected to take the place of the oil sector as the main engine of growth. Oil and agriculture will of course remain important, but manufacturing is expected to contribute an increasing proportion of value added, net foreign exchange earnings and employment.

During Repelita IV the overall economy (GDP) and manufacturing are expected to grow at 5 and 9.5 per cent annually respectively. Growth of domestic demand for industrial products is estimated at 8.5 per cent. To achieve the planned expansion of the manufacturing sector of 9.5 per cent annually, an acceleration of growth of manufacturing exports is required. In this regard the Plan envisages a real growth rate manufactured exports of 13-14 per cent annually. In terms of employment the Plan estimates that the manufacturing sector will provide new employment opportunities for 1.2 million persons. Repelita IV attaches high priority to the development of the basic chemical industry as well as metal and machinery industries, which both are expected to grow at around 17 per cent per year. Miscellaneous industry consisting mainly of basic commodities is planned to expand at 6.5 per cent while small-scale industry is slated at 3 per cent.

Industrial development, under Repelita IV, will aim at creating a balanced and strong economic structure. The Plan envisages that industrialization will involve a significant structural change in the Indonesian economy, expansion of employment opportunities, reduction of import dependency, acceleration of manufactured exports, development of industrial growth centres in the regions, and maximum utilization of natural resources, energy and manpower. Emphasis will be given to strengthen the industrial structure through acceleration of interlinkages among various branches of industry, between industry and other sectors in particular agriculture as well as between small, medium and large industry. Emphasis will also be placed on development of small industry and other labour-intensive industries.

As regards the composition of manufacturing output, promotion of export industries is to receive high priority in order to help fill the gap left by declining oil earnings. Current plans, however, also include further import substitution, especially in the processing of raw materials into intermediate products needed by downstream manufacturers. The development of such industries should also help correct the regional imbalance of manufacturing industries, since most of the raw materials will come from the outer islands.

The Role of Small-Scale Enterprise. As was pointed out in chapter 2.8 above, small-scale and household/cottage industry still accounts for a significant part of value added and the overwhelming majority of jobs in Indonesian manufacturing (Tables II.12 and II.13).

Most small-scale industries are rural based. Often they occur in clusters, where a group of similar types of enterprise are located in one or a few neighboring villages. They are also spread throughout the country, though they are more prevalent in some provinces, e.g. Aceh, Central Java, Jogyakarta, Central Kalimantan, North and South-Sulawesi.

In general, the economic performance of small-scale enterprises is poor. Productivity and incomes are low, and employment in such activities often has a seasonal or part-time character. Therefore, many of the workers can be classified as underemployed. These types of enterprise face a large variety of difficulties including limited access to credit, problems in marketing, poor quality of products, inefficient production techniques, primitive equipment and lack of managerial and vocational skills.

In view of the important role of small-scale enterprises in Indonesia in creating employment, their prevalence in rural areas and their regional dispersion, strategies of industrial development should include the promotion of such establishments. While in the past programmes have been implemented for small industries, the general industrial climate favoured large-scale industrial development. In such an environment these programmes had little chance of success.

Small-scale industries in a number of sectors can have considerable growth potential. They include products for which technology is still labour-intensive such as clothing and footwear. Also industries which rely on closeness to markets can be organised on a small-scale basis such as a number of food processing industries (bakeries, tahu, tempe). Moreover, small-scale industries which are dependent on specific skills or crafts, such as batik and simple metal working and engineering industries, have potential.

Alternative Strategies. In the remainder of this chapter the options open to Indonesian policy makers concerned with industrial development are examined in the analytical framework of two alternative broad strategies, which will be called Strategy A and Strategy B.

Strategy A aims to reduce Indonesia's dependence on world markets and imports. The strategy emphasises the development of manufacturing industries producing for the domestic market for consumer goods, capital goods and intermediate products. In so far as it relies heavily on import-substitution, it may be called an inward-looking strategy. Alternatively, it could be called a strategy of self-reliance.

Strategy B focuses on the development of industries in which Indonesia can be expected to have a comparative advantage in international trade. It tends to emphasise labour-intensive industries, export promotion and small-scale enterprise. It can be called an outward-looking or labour-intensive strategy.

Both strategies have in common a high priority for natural-resource based industries, since both acknowledge that Indonesia's natural resources provide the firmest basis for relatively competitive industrialisation at her present stage of development.

3.6 Projections of Sectoral Growth in Indonesian Manufacturing 1980-1990

Projections of production for industry branches (at the 3-digit level) for the 1980s are presented in Table III.1. The projections have been based on assumed values for growth elasticities relating the growth of each sector to the growth of the manufacturing sector as a whole. The assumed growth elasticities under each of the two strategies are based on the following considerations in relation to the metal-manufacturing branches, leaving all other manufacturing the residual share. Broadly speaking, strategy A reflects the historical development path of Indonesian manufacturing. The growth elasticities for this strategy have, therefore, been based in part on a continuation of the historical pattern, although the experience of another large country with this strategy, Brazil in the 1960s, has also been taken into account. In the specification of growth elasticities for Strategy B, the experience of export-oriented industrialising countries, such as The Republic of Korea (in the late 1960s and early 1970s) and Malaysia has been taken into account.

The effects of the two alternative strategies on value added, and the shares in total manufacturing value added, of the several metal using branches are summarised in Table III.1. It shows that under the labour-intensive strategy (B) the share of these branches in total manufacturing would remain virtually unchanged while under the import-substitution strategy (A) it would increase from 32 to 37 per cent by 1990. But the postition is different for the non-electrical machinery branch (382) which would increase its share in total manufacturing under both strategies.

Table III.1: Projections of manufacturing output at 1980 prices with special reference to metal sectors, 1980-1990

	Realisation 1980		Projections 1990							
			Strategy (a)				Strategy (b)			
			Inward looking strategy				Outward looking strategy			
ISIC Sector	Value Rp10^9	Share (%)	Elasticity	ΔValue Rp10^9	Value Rp10^9	Share (%)	Elasticity	ΔValue Rp10^9	Value Rp10^9	Share (%)
371 Iron, steel	700	4.3	1.5	1,436	2,136	5.6	0.8	766	1,466	3.8
372 Non-ferrous basic metal	457	2.8	2.0	1,250	1,707	4.4	1.5	937	1,394	3.6
381 Metal products	515	3.2	1.2	845	1,360	3.5	1.3	915	1,430	3.7
382 Machinery, non-elec.	417	2.6	1.8	1,026	1,443	3.7	1.2	648	1,065	2.8
383 Electrical machinery	300	1.8	1.5	615	915	2.4	2.0	820	1,120	2.9
384 Transport equipment	2,141	13.2	1.0	2,928	5,069	13.2	0.8	2,342	4,483	11.7
3849 Repair of veh.	717	4.4	1.0	980	1,695	4.4	1.0	980	1,697	4.4
OM Other manufac.	10,982	67.7	0.9	13,111	24,093	62.7	1.0	14,783	25,765	67.1
TOTAL	16,229	100.0	1.0	22,191	38,420	100.0	1.0	22,191	38,420	100.0

Sources: Data from Ministry of Industry and calculations by the Netherland Economic Institute.

Iron and Steel. With the completion of part of the Krakatau Steel complex, steel production has become an important industrial sector. The plant, however, is still characterised by low levels of capacity utilisation and large financial losses. Under Strategy A major extensions of the steel industry would be undertaken to reduce dependence on imports. Under Strategy B, expansion of the industry would be limited to expansion of some complementary fabricating facilities. Priority would be given to raising the efficiency of forging activities in existing small-scale furnaces.

Non-ferrous Metals. This sector at present comprises processing of tin, copper, silver and gold. Important additions will be the Asahan aluminium smelter, and possibly later nickel smelters and an aluminium plant, all largely oriented towards export markets. Strategy A would continue development of this sector involving large capital intensive projects. Strategy B would also include such development on the ground that it involves resource-based exports, but would give it lower priority because of its high capital-intensity.

Engineering Industries. This sector comprises a large variety of activities including the metal-working, electrical machinery, non-electrical machinery and transport equipment and repair branches. In Indonesia, production (chiefly assembly) of consumer durables grew rapidly in the early 1970s and has since then slowed down. Production of capital (producer) goods has risen rapidly in more recent years but has been confined to a narrow range of products, chiefly hand tractors and other agricultural equipment. Strategy A would continue expansion of output of transport equipment (motor vehicles, aircrafts, ships, railway rolling stock) with increasing emphasis on local components. Strategy B would focus on products in which Indonesia is likely to have a comparative advantage. These include electronics and other labour-intensive production of consumer durables, increasingly for export, and production of simple producer goods, largely for processing of primary products, such as estate crops and timber, for the domestic market and for export.

Other Manufacturing. The main sectors in this broad category are the traditional food-processing, textiles and other non-durable consumer goods industries and a range of relatively capital-intensive industries producing non-metal intermediates, such as fertiliser and other chemicals, paper, glass, cement and other building materials and petrochemicals (including refinery products and plastics). Strategy A would continue to expand investment in the latter industries, with the stress on import substitution. Strategy B would emphasise labour-intensive exportable products, such as textiles and garments, some food and tobacco industries (tinned fruit, clove cigarettes), plywood, furniture, leather and rubber products.

Chapter IV. Economic Implications of alternative strategies

4.1 Inter-industry linkages

The economic effects of the establishment of new industries are not always fully apparent from value added, employment and import requirements of the industries themselves, without paying regard also to indirect effects through backward and forward linkages which are revealed by input-output analysis.

Annex Table 37 indicates the forward linkages of the Indonesian manufacturing sector according to recent input-output data[1/]. It shows that around 37 per cent of domestic production of manufactures was destined for intermediate use and of this 60 per cent for sectors other than manufacturing. High forward linkages of individual manufacturing industries include basic agricultural processing industries, wood, textile and building material industries which produce goods used by a few sectors cnly, as well as chemical and engineering industries which find customers among a wider range of industries.

Backward linkages represent the share of intermediate inputs into a sector provided by domestic suppliers. Estimates of backward linkages can therefore indicate indirect output and employment effects resulting from purchases of inputs by a sector, in addition to the primary direct effects of an increase in output by that sector. Table IV.1 presents estimates of total production effects expressed as a multiple of the direct effects of an increase in domestic production in a sector. It shows that the total effects are between 1.1 and 2.5 times as high as the direct effects.

Forward and backward linkages need to be taken into account in assessing the full ecnomic effects of the establishment or expansion of an industry, but they need to be interpreted with care. An industry with large forward linkages is assured of a domestic market. If its output (or increase in output) replaces imports, additional income and employment are generated,

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[1/] See Ministry of Industry/NEI: "Structural Analysis of the Indonesian Manufacturing Sector", Rotterdam, February, 1983, which includes a detailed examination of such linkages on the basis of the 1980 input-output table.

Table IV.1: **Domestic production effect** (multiple of the direct effects of an increase in domestic production in a sector)

32	Noodles/Macaroni	2.5394
29	Grain Mill Products	2.4103
26	Coconut Cook. oil	2.3656
37	Other Food Products	2.2186
31	Bakery Products	2.2097
22	Meat Processing	2.2065
48	Tann./Leather Products	2.2065
65	Other Petrol. Products	2.1347
57	Furniture and Fixtures	2.1116
34	Coffee Grinding	2.0340
28	Rice Milling	2.0256
9	Rubber	2.0154
89	Mus. Inst. Sports	1.9938
86	Repair of vehicles	1.9764
27	Other Veget/an. Oil	1.9729
16	Slaughtering	1.9678
82	Ship Build./Repair	1.9674
63	Petroleum Refin./Eng.	1.9513
90	Manufacturing NEC.	1.9227
51	Wood and Cork	1.9114
25	Fish Processing	1.8938
8	Cassava Products	1.8872
7	Handpounded Rice	1.8766
60	Soaps and Cosmetics	1.8664
11	Copra	1.8520
74	Basic Metals	1.8519
13	Processed Tobacco	1.8397
64	Lubric. Grease Oil	1.8356
18	Drying, Salting Fish	1.8219
30	Sugar	1.7946
46	Made-up Textile G.	1.7908
12	Farm Coconut Oil	1.7877
44	Batik	1.7855
49	Leather Products	1.7678
35	Tea Processing	1.7668
39	Soft Drinks	1.7495
23	Dairy Products	1.7215
24	Fruits/Veget. Proc.	1.7001
50	Sawm. and other Proc.	1.6773
17	Sawmilling in Forest	1.6752
75	Metal Products	1.6748
42	Weaving	1.6626
14	Farm Proc. Coffee	1.6534
67	Other Rubber Proc.	1.6392
61	Other Chemical Pr.	1.6308
73	Other Building Mat.	1.6285
36	Soya Bean Processing	1.6134
10	Brown Sugar	1.5775
72	Cement	1.5463
76	Metal Furn./Fixtures	1.5429
33	Cocoa. Choc. Sugar	1.5414
56	Basic Chemicals	1.5389

(Table IV.1 continued)

15	Farm Proc. Tea	1.5267
57	Fertilizers	1.5197
71	Structure Clay Prod.	1.5151
53	Pulp and Paper	1.5151
85	Motorcycles, Bicycles	1.5130
80	Elec. App. Nec/Repair	1.5030
88	Profess./Scientific Pro.	1.4993
83	Railroad Equip./Rep.	1.4961
45	Knitting	1.4782
66	Tyres and Tubes	1.4442
70	Glass/Glass Products	1.4436
40	Cigarettes	1.4172
81	Accum./Dry Batteries	1.4143
55	Printing, Publishing	1.3976
54	Paper Products	1.3971
62	Pesticides	1.3908
69	Ceramics, Earthenware	1.3728
41	Spinning	1.3728
77	Structur. Metal Prod.	1.3587
43	Textile Finishing	1.3302
78	Machinery, Repair	1.3273
59	Drugs and Medicines	1.3202
47	Carpets, Rugs, Ropes	1.3177
87	Aircrafts, Repair	1.3147
38	Alcoholic Beverages	1.2980
79	Radio, TV, Appliances	1.2591
58	Paints	1.2304
84	Motor Vehicles	1.1895
68	Plastic Products	1.1594

Source: Ministry of Industry, NEI: "Structural Analysis of the Indonesian Manufacturing Sector", Rotterdam, February 1982.

although, as with all import substitution, there may be offsetting negative repercussions on the country's export industries. Again, if an import-replacing industry is able to supply cheaper products, quality for quality, than the imports it replaces, there will be a gain to the users, in the form of lower production costs in the case of producer goods, or in welfare in the case of consumer goods. The local industry may, for example, be in a better position to meet the special needs and tastes of local users. But the reverse may happen, in which case the users are adversely affected. This would almost certainly be the case, at least in the first instance, where the domestic import-replacing industry requires substantial tariff or other protection.

Backward linkages suggest that a new industry may provide a stimulus to domestic industries on whose products it draws as inputs, whether intermediates or capital goods. It enlarges their domestic market. This stimulus will be greater the larger the proportion of inputs derived from domestic suppliers rather than from imports, in other words the higher the total production effects, as shown in Table IV.1. But it needs to be remembered that these total production effects (the multipliers of the initial increase in output) are inversely proportional to the proportion of the initial increase in output that accrues as value added in the new industry itself (the multiplicand). The total contribution to GDP or employment throughout the economy is no larger, but more of it accrues in other industries or sectors if the backward linkages are large.

One determinant of the total production effect which measures backward linkages is the proportion of a new industry's inputs that is obtained from abroad as imports. Annex Table 39 shows the direct import requirements resulting from intermediate deliveries for individual industries. It appears that the share of intermediate inputs obtained from imports is particularly high for Indonesian engineering industries, and also high for chemicals. Annex Table 40 presents total import requirements for main categories of manufactures, distinguishing between the actual import requirements of currently producing domestic industries and the hypothetical import requirements of domestic industries set up to replace imports of intermediates. It appears that within each group the intermediate import coefficients of currently producing domestic industries are lower than the hypothetical coefficients of import replacing industries. Both findings might be taken to present a case for further import substitution, so as to increase backward linkages (total production effects). But this is clearly an illegitimate inference. The mere fact that indirect production effects would be larger would not increase overall national gains in GDP or employment. Whether import substitution would be desirable would still need to be assessed, as always, in terms of the current and prospective capacity of the new domestic industry to produce efficiently.

4.2 Factor intensities

If employment generation is an important national objective, one criterion in determining priorities in industrial policy is the factor intensity of an industry. The more labour-intensive an industry, the larger is the effect on employment of an extra unit of production. Here again, inter-industry relationships are important. The indirect employment effects, via forward and backward linkages, may be high, even though the industry itself is relatively capital-intensive.

In the absence of comprehensive and reliable capital stock data for Indonesian manufacturing industries, Table IV.2 uses labour-output ratios to measure labour intensity of production. It also uses skilled man-years per unit of output and non-wage value added per worker as proxies for the use of human and physical capital[1/].

The table presents total as well as direct labour requirements (man-years per Rp. billion of final demand) of manufacturing industries in 1980 and ranks them according to their total labour requirements. It also shows for each industry its ranking in terms of skilled man-years and non-wage value added per worker.

A striking finding is the evidence of very high total labour requirement of many industries, especially resource-based industries, with relatively low direct labour requirements. Among these are food processing industries, such as rice and other grain milling, coconut and other cooking oil processing, but also rubber and leather processing. By contrast, some relatively labour-intensive industries in terms of the labour-output ratio of the industry itself, have relatively small additional indirect effects on employment, among them structural clay products, wood and cork, ceramics, copra and furniture industries. Relatively small indirect employment effects are found also for some more (directly) capital-intensive industries, such as metal furniture and other metal products, knitting and scientific instruments industries, and of course the highly capital intensive industries at the bottom of the list.

1/ Ministry of Industry/NEI, op.cit.

Table IV.2: Total and direct labour requirements in man-years by industry per Rp. billion of domestic final demand and rankings according to labour, skill and non-wage value added

	Labour requirements		Rankings		
	Total	Direct	Labour	Skill	Non-wage value added
Handpounded rice	2914.1	1300.0	1	81	80
Grain mill products	2460.1	210.0	2	61	64
Rice milling	2220.5	435.0	3	79	77
Noodles/macaroni	2146.4	687.0	4	62	59
Struct. clay products	2143.1	1900.0	5	67	72
Other food products	1878.2	810.0	6	51	58
Cassava products	1856.5	430.0	7	78	78
Bakery products	1601.9	711.0	8	30	50
Copra	1589.0	1000.0	9	71	71
Soya bean processing	1573.2	890.0	10	76	79
Wood and cork	1570.0	1240.0	11	33	39
Ceramics, earthenware	1538.8	1410.0	12	39	69
Furniture, fixtures	1351.6	910.0	13	2	35
Drying, salting fish	1208.1	630.0	14	70	65
Processed tobacco	1198.7	650.0	15	77	70
Fish processing	1189.8	563.0	16	68	53
Brown sugar	1144.4	750.0	17	64	68
Coffee grinding	1126.7	516.0	18	63	61
Made-up textile g.	1078.0	750.0	19	54	76
Farm coconut oil	1028.5	480.0	20	74	62
Batik	1025.8	752.0	21	59	57
Coconut cook oil	1018.1	79.0	22	65	26
Slaughtering	988.5	200.0	23	66	66
Tea processing	959.3	473.0	24	69	55
Manufacturing nec.	951.7	643.0	25	50	16
Farm processing coffe	917.8	473.0	26	73	60
Other veget./an. oil	914.7	72.0	27	20	24
Fruits/vegetable processing	849.5	220.0	28	29	54
Farm processing tea	841.6	473.0	29	76	73
Mus. inst., sports pr.	809.7	460.0	30	14	10
Metal furniture/fixtures	754.5	589.0	31	56	25
Other building material	750.5	475.0	32	44	46
Meat processing	746.4	135.0	33	65	30
Leather products	731.6	480.0	34	16	48
Tanneries/leather processing	700.9	100.0	35	55	38
Sugar	691.3	231.0	36	8	32
Metal products	680.3	470.0	37	21	15
Soft drinks	678.8	374.0	38	6	34
Knitting	659.1	508.0	39	52	75
Rubber	655.6	56.0	40	60	19
Prof./scient. pr.	629.0	453.0	41	37	42
Cocoa. choc. sugar	628.6	277.0	42	24	67

(Table IV.2 continued)

	Labour requirements		Rankings		
	Total	Direct	Labour	Skill	Non-wage value added
Weaving	588.6	403.0	43	26	63
Other rubber products	587.4	350.0	44	43	47
ship building/repair	523.0	255.0	45	1	9
sawmilling and other proc.	512.4	250.0	46	23	36
Sawmilling in forest	497.6	250.0	47	27	28
Printing, publishing	468.2	300.0	48	13	49
Repair of vehicles	466.5	286.0	49	3	7
Carpets, rugs, ropes	465.9	281.0	50	75	75
Soaps and cosmetics	440.4	81.0	51	11	27
Plastic products	414.9	335.0	52	53	81
Elec. app. nec., repair	414.4	250.0	53	7	31
Dairy products	373.0	115.0	54	40	21
Cigarettes	371.5	102.0	55	72	43
Glass, glass products	344.2	188.2	56	4	41
Paper products	337.3	160.0	57	38	45
Spinning	335.1	155.0	58	46	56
Pulp and paper	330.4	114.0	59	31	33
Other chemical products	311.9	142.0	60	47	13
Machinery, repair	295.0	135.0	61	18	44
Drugs and medicines	291.3	139.0	62	28	51
Basic chemicals	284.6	145.0	63	12	14
Accum./dry batteries	283.0	141.0	64	5	29
Tyres and tubes	266.6	116.0	65	9	22
Cement	252.9	117.0	66	34	8
Textiles finishing	252.0	137.0	67	57	52
Paints	229.5	138.0	68	49	37
Pesticides	213.2	26.0	69	36	6
Structur. metal products	204.5	85.0	70	42	18
Motorcycles, bicycles	203.4	56.0	71	58	17
Alcoholic beverages	194.2	87.0	72	10	20
Railroad equip./rep.	182.8	64.0	73	15	11
Radio, tv, appliances	174.6	76.0	74	32	40
Basic metals	167.6	37.0	75	48	4
Aircraft, repair	147.3	64.0	76	19	23
Fertilizers	135.4	26.0	77	31	5
Motor vehicles	127.4	64.0	78	25	12
Other petroleum products	109.1	26.0	79	17	3
Lubric., grease oil	92.4	26.0	80	35	2
Petroleum ref./LNG	74.3	26.0	81	41	1

Source: Ministry of Industry/NEI, "Structural Analysis of the Indonesian Manufacturing Sector", Rotterdam, February, 1983.

Generally, labour-intensive industries tend to be characterized by a relatively low level of non-wage value added and vice versa. In addition, labour-intensive industries appear to require low levels of skills and vice versa. However, the extent of negative correlation between labour and skill requirements is much lower than between labour and non-wage value added. A number of industries which are ranked in the middle ranges according to labour-intensity appear to be relatively highly ranked according to skill-intensity, such as, shipbuilding, repair of vehicles, glass and glass products, soft drinks, electrical appliances N.E.C. and printing and publishing.

Labour-intensity not only varies between industries, it also varies within industries between sizes of establishments. Generally, labour-intensity tends to decrease with the size of establishments. On the other hand, from data generated by a study on capacity utilization in manufacturing industry, it can be inferred that there is no significant correlation between labour-intensity and the efficiency of capital[1/]. This was found by correlating data on capital per worker and value added per unit of capital. In other words, more capital-intensive industries do not necessarily generate more or less value added per unit of capital.

For the purpose of the present study it is particularly interesting to discuss relative factor intensities in engineering industries. In the underlying input-output exercises 72 manufacturing sectors have been distinguished. Designating sectors attaining rank 1 till 18 with respect to a certain factor as highly factor intensive (++), for ranks 19 till 36 as factor intensive (+), for ranks 37 till 54 as intermediate factor intensive (+,-), and for ranks 55 till 72 as factor extensive (-), the following scheme can be formulated.

[1/] Ministry of Industry/NEI: "Project Mankap DTA-193: Harmonization report", Jakarta/Rotterdam, 1983.

ISIC	Sector	Labour	Skill	Capital (Non Wage Value Added)
37100/200	Basic metals	-	+,-	++
38111/2/3/4/40/90	Metal products	+,-	+	++
38120	Metal furn./fixture	+	+,-	+
38130	Struct. metal products	-	+,-	++
38200/330	Machinery, repair	-	++	+,-
38320	Radio,T.V., appliances	-	+	+,-
38340	Elect. app. nec., repair	+,-	++	+
38311/2	Accum./dry batteries	-	++	+
38411	Ship build./repair	+,-	++	++
n.a.[a]	Railroad equipment/repair	-	++	++
38430	Motor vehicles	-	+	++
38440/50	Motor cycles/bicycles	-	+	++
n.a.[a]	Repair of vehicles	+,-	++	++
n.a.[a]	Aircraft, repair	-	+	+
38500	Profess./scient. products	+,-	+,-	+,-

[a] n.a. = no ISIC classification available.

With the exception of metal furniture and fixtures, all metal industries can be classified according to the criterion stated as low to intermediate labour-intensive. The skill indicator used suggests that most metal industries are skill-intensive. Exceptions are basic metals, metal furniture and fixtures, structural metal products and professional and scientific equipment. The non-wage value added indicator of capital intensity points to the prevailing capital-intensive character of metal industries. Only machinery and repair, radio, T.V. and appliances and professional and scientific equipment can be classified as intermediate capital-intensive. These results should be treated with due caution. Apart from the theoretical problems of adding quantities of heterogenous products, the indicators of skill- and capital-intensity are far from perfect. The results can at best provide preliminary indications of less efficient sectors when the general level of skills and/or the availability of investment capital are serious constraints to the ongoing development process.

4.3 Comparison of strategies

The two strategies (A) and (B), discussed is subsections 3.5 and 3.6, have been assessed in terms of their direct implications for employment, investment needs, import requirements and value added. These effects have been presented in Annex Tables 41 and 42. The results are summarized below in Table IV.3.

Table IV.3: Economic effects of alternative strategies

Summary results	Increments 1980-1990	
	Strategy A Inward looking strategy	Strategy B Outward looking strategy
Production (Rp. billion)	22,191	22,191
Employment (thousands of persons)	1,785	2,531
Investment (Rp. billion)	32,688	22,462
Value added (Rp. billion)	6,670	6,535
Imports of inputs (Rp. billion)	7,878	6,903
Incremental ratios:		
Capital-output	1.5	1.0
Capital-value added	4.9	3.4
Efficiency of capital (value added-capital)	0.20	0.29
Capital-labour (Rp. million)	18.3	8.9
Value added-labour (Rp. million)	3.7	2.6

Employment. It can easily be observed that strategy (B) has the most favourable effects on employment. It will create some 750,000 jobs or 50 per cent more than strategy (A). It should be noted that the same labour-intensities have been applied for the two strategies. This assumption may lead to somewhat biased results favouring strategy (A), since in many sectors, strategy (B) could lead to substantially higher labour-intensities than strategy (A). Examples are textiles, plastics, building materials, metal products and machinery, most notably electrical appliances (electronics).

Investment needs. Strategy (A) is highly capital-intensive, requiring Rp. 10 trillion or 30 per cent more investment funds than strategy (B). From these data it can also be inferred that the original programme of 52 key projects would require a substantial proportion of total investment in the manufacturing sector. Excluding the refinery and petro-chemical complexes the necessary investment funds for this programme add up to Rp. 8.5 trillion or 25 per cent of the funds needed for strategy (A).

Import requirements. The difference in import requirements of inputs between the two strategies is much less substantial. They are about 14 per cent lower for strategy (B) than for strategy (A). It appears that both capital- and labour-intensive strategies involve industries which import a substantial part of their inputs. Imports amount to 31.1 per cent of the value of production in case of strategy (B) and to 35.5 per cent in case of strategy (A).

At this stage it is not possible to assess the complete impact of the two strategies on foreign exchange earnings which would also take into account the export earnings of strategy (B). Such an assessment requires estimates of the value of output and inputs at border prices. Generally, strategy (A) requires high levels of effective protection of domestic production. As a result the difference between revenue and production cost at domestic prices for these industries would exceed the difference between revenue and costs at border prices and would, therefore, overstate the contribution to foreign exchange. As strategy (B) implies much lower rates of effective protection, value added in domestic prices will reflect more closely the net contribution to foreign exchange.

Value added. The share of value added in production is very similar for both strategies, namely around 30 per cent.

The effects of both strategies can also be summarized on the basis of a number of ratios (see Table IV.3 above). The capital-output and capital-value-added ratios represent the impact of a unit investment on output and value added respectively. It can be seen that strategy (B) requires less capital to produce a given amount of output (value added) than strategy (A), or a given amount of investment according to strategy (B) produces more value added than the same amount of capital invested according to strategy (A).

It follows that the volume of investment needed for strategy (A) to produce an annual rate of growth of manufacturing output and value added of 9 per cent, would result in an annual rate of growth of output and value added of 11.6 per cent if strategy (B) were implemented. The capital-labour ratios clearly show the high capital intensity of strategy (A). Strategy (A) requires more than twice the amount of capital to create a job than strategy (B).

The analysis above focuses on the development patterns of individual industries and their factor intensities. The results can also be generalized for groups of industries. It has been shown elsewhere that the capital-intensity of imports is significantly higher than that of domestic production (see Annex Table 43). In other words, continuation of import substitution strategies increases the capital-intensity of the manufacturing sector. On the other hand, export industries are highly labour-intensive.

It is possible to add other elements to industrialisation strategies. For example, promotion of small-scale industries is often included as a distinct component of an industrialisation strategy. The development of small-scale industries specifically contributes to employment generation, as they are usually significantly more labour-intensive than larger-scale enterprises (see Table II.10). Small-scale industry development can also have other desirable effects such as a wider dispersion of entrepreneurial and managerial skills and indigenisation of technological development in certain sectors. In Indonesia small-scale industries are most prevalent in the food, clothing, furniture, building materials and metal products industries. These industries are also rapidly growing industries in a labour-intensive export-oriented industrialisation strategy. It seems, therefore, that the development of small-scale industries is easiest to fit in with such a strategy. Nevertheless, to some extent promotion of small-scale industries can also be combined with a capital-intensive import substitution strategy. In that case more forceful measures will probably be needed, such as reserving the production of certain goods to small-scale industries. Other measures of small-scale industry development include encouraging sub-contracting arrangements, such as the foster-parent programme and giving priority to small-scale producers in government procurement efforts, as in the current Keppres 14A programme.

An industrialisation strategy for Indonesia can also focus more explicitly on natural-resource based industries. Such resources include agriculture and various mining products. This type of development generally has low import requirements and, whereas these industries often generate little direct employment, their indirect employment effects are substantial (see Table IV.2).

4.4 Combining different strategies

To some extent it is of course possible to mix elements of various industrialization strategies. A more substantial contribution of the manufacturing sector towards employment and foreign exchange earnings will require the promotion of labour-intensive industries and a stronger orientation towards exports. However, certain capital-intensive industries are needed to achieve a balance in the industrial structure, to provide a stronger base for long-term development and technological deepening. The large size of the country may justify the establishment of large scale industries, since in Indonesia the economies of scale required for efficient operation are more likely to be realized. The selection of such industries, however, should be based on sound economic criteria, weighing carefully economic costs and benefits. Other things being equal, such projects are more likely to be justified if they are financed with foreign investment funds which would not otherwise be forthcoming.

Generally, a selective approach to import substitution may also be blended into a labour-intensive strategy. Priority could be given to industries which are relatively labour-intensive, or in which in the longer run Indonesia is likely to develop a comparative advantage. Currently, import substitution possibilities exist mainly for intermediate and capital goods of which still substantial amounts are imported. Important candidates could include simple engineering products. With regards to non-durable consumer goods already 92 per cent of the supply is produced locally.

As capital will remain a scarce factor in the longer term as well, Indonesia's comparative advantage might develop in the long run from labour-intensive industries to skill-intensive industries with relatively low capital-intensities. It has been demonstrated in this study that several industries in the middle ranges of capital-intensity are relatively skill-intensive. Such industries deserve attention in the next 5-10 years. However, in the short run it requires substantial efforts to improve skills and management.

The development of labour-intensive and resource-based industries has important implications for intersectoral and interregional relationships. It encourages specialization on Java in labour-intensive manufacturing, with the other islands supplying raw materials and food for industrial growth in Java. The other islands can also be the site of the primary resource processing industries. Such a development would be consistent with the distribution of regional comparative advantage of abundant labour in Java and natural resource abundancy on the other islands.

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STATISTICAL ANNEX

Annex Table 1

Indicators of population, gross domestic product and manufacturing value added, selected developing countries, 1980

(Values in current prices)

Country	Popu-lation	GDP	GDP per capita	Share of GDP (percentage based on current prices)				Manufacturing value added (MVA)	MVA per capita	Average real annual growth rate of MVA	
	(Mill.)	Mill.US$	US$	Agri-culture	Indus-try	Manu-facture[a/]	Services and other	Mill.US$	US$	1960-70	1970-80
Asia											
Indonesia	152	70,024	461	26	35	9	39	6,154	41	4.3	12.3
India	695	159,872	230	37	19	18	44	28,512	41	4.8	4.5
Iran	38	81,420	2,142	15	43	19	42	15,632	411	10.0	10.2
Bangladesh	88	12,735	144	54	8	8	38	966	11	3.7	8.8
Pakistan	82	27,961	339	30	18	17	52	4,716	57	9.9	4.8
Thailand	48	32,905	690	26	21	19	53	6,146	129	10.7	11.8
Philippines	46	35,456	695	23	29	26	48	9,069	178	6.6	7.1
Korea, Rep. of	38	59,329	1,562	17	31	29	52	17,394	458	16.8	15.4
Malaysia	14	21,502	1,576	24	30	23	46	4,840	355	10.1	11.4
Sri Lanka	14	4,155	279	39	12	11	49	440	30	7.7	6.0
Hong Kong	5	21,049	4,346	1	29	29	70	6,077	1,255	11.8	6.5
Singapore	2	10,985	4,526	1	29	28	70	3,113	1,283	14.1	10.6
Other regions:											
Brazil	126	237,757	1,881	13	27	27	60	63,203	500	6.4	8.8
Nigeria	77	117,082	1,519	19	32	5	49	6,020	78	8.0	9.9
Mexico	70	168,441	2,407	9	31	25	60	41,488	593	9.5	5.9
Egypt	42	24,030	572	16	34	11	50	2,758	66	5.0	6.4

Source: UNIDO data base; information supplied by the United Nations Statistical Office, with estimates by the UNIDO secretariat.

[a/] Manufacturing is part of industry, but is shown separately since it is often the most important part of the industry sector.

GDP by industrial origin (at constant 1975 prices) in Mill. US $ and Annual Rates of Growth 1960-1980

	Agriculture		Min. + Quarr.		Manufacturing		Utilities		Construction		Services		GDP	
	Mill. US $	Annual Rate of Growth	Mill. US $	Annual Rate of Growth	Mill. US $	Annual Rate of Growth	Mill. US $	Annual Rate of Growth	Mill. US $	Annual Rate of Growth	Mill. US $	Annual Rate of Growth	Mill. US $	Annual Rate of Growth
1960	6,699.7	-	2,032.5	-	911.9	-	33.2	-	308.4	-	4,441.7	-	14,427.4	-
1961	6,864.1	2.5	2,076.8	2.2	1,031.7	13.1	36.5	9.9	401.3	30.1	4,921.0	10.8	15,331.2	6.3
1962	6,975.7	1.6	2,155.6	3.8	1,029.2	-0.2	38.9	6.6	332.9	-17.0	4,871.0	-1.0	15,403.3	0.5
1963	6,677.5	-4.3	2,073.4	-3.8	1,003.8	-2.5	44.6	14.7	250.2	-24.9	4,909.7	0.8	14,959.2	-2.9
1964	7.069.1	5.9	2,186.1	5.4	997.0	-0.7	50.9	14.1	251.9	0.7	5,058.3	3.0	15,613.3	4.4
1965	7,072.5	0.9	2,226.4	1.8	981.7	-1.5	50.5	-0.7	284.8	13.0	5,089.7	0.6	15,705.7	0.6
1966	7,479.6	5.8	2,162.5	-2.9	1,010.2	2.9	51.0	0.9	326.2	14.6	5,140.0	1.0	16,169.6	3.0
1967	7,286.3	-2.6	2,323.9	7.5	1,034.1	2.4	65.4	28.2	280.9	-13.9	5,383.6	4.7	16,374.3	1.3
1968	7,708.0	5.8	2,711.8	16.7	1,113.0	7.6	67.6	3.4	335.0	19.3	5,609.1	4.2	17,544.6	7.1
1969	7,728.6	0.3	3,272.0	20.7	1,264.6	13.6	100.6	48.7	442.7	32.1	6,173.1	10.1	18,981.7	8.2
1970	8,136.3	5.3	3,796.5	16.0	1,397.2	10.5	92.4	-8.1	558.5	26.1	6,599.8	6.9	20,580.7	8.4
1971	8,539.8	5.0	4,061.7	7.0	1,595.3	14.2	102.8	11.2	679.0	21.6	7,107.3	7.7	22.085.8	7.3
1972	8,571.8	0.4	4,910.5	20.9	1,814.9	13.8	107.8	4.8	871.2	28.3	8,148.8	14.7	24,425.0	10.6
1973	9,332.1	8.9	6,029.5	22.8	2,083.0	14.8	124.5	15.6	1,023.9	17.5	8,764.0	7.5	27,357.1	12.0
1974	9,690.9	3.8	6,239.8	3.5	2,422.3	16.5	151.7	21.8	1,252.0	22.3	9,612.0	9.7	29,369.5	7.4
1975	9,648.2	-0.4	5,988.4	-4.0	2,708.1	11.8	168.2	10.9	1,420.9	13.5	10,534.4	9.6	30,468.3	3.7
1976	10,068.2	4.4	6,862.8	14.6	2,960.1	9.3	188.4	12.0	1,492.5	5.0	11,115.1	5.5	32,687.3	7.3
1977	10,239.3	1.7	7,743.2	12.8	3,380.6	14.2	200.2	6.3	1,807.8	21.1	12,509.2	12.5	35,880.4	9.8
1978	10,817.3	5.6	7,625.6	-1.5	3,778.0	11.8	218.8	9.3	2,071.3	14.6	13,684.3	9.4	38,195.3	6.5
1979	11,065.7	2.3	7,571.7	-0.7	4,104.6	8.6	265.9	21.5	2,199.4	6.2	14,834.0	8.4	40,041.4	4.8
1980	11,935.9	7.9	7,660.3	1.2	4,476.0	9.0	290.3	9.2	2,436.3	10.8	16,677.1	12.4	43,476.0	8.6

Average Annual Rate of Growth
(Percentage)

	Agriculture	Min. + Quarr.	Manufacturing	Utilities	Construction	Services	GDP
1960-65	1.1	1.8	1.5	8.8	-1.6	2.8	1.7
1965-70	2.8	11.3	7.3	12.8	14.4	5.3	5.6
1970-75	3.5	9.5	14.2	12.7	20.5	9.8	8.2
1975-80	4.3	5.0	10.6	11.5	11.4	9.6	7.4
1960-70	2.0	6.4	4.4	10.8	6.1	4.0	3.6
1970-80	3.9	7.3	12.3	12.1	15.9	9.7	7.8
1960-80	2.9	6.9	8.3	11.5	10.9	6.8	5.7

Source: Unido Date Base, Information supplied by the United Nations Statistical Office, with estimates by the UNIDO Secretariat.

Annex Table 3

Indonesia: Changing share of economic sectors in GDP, 1960-1980

A. Based on constant 1975 prices (million US dollar)

	Agriculture	Mining and quarrying	Manufacture	Utilities	Construction	Services
			- Percentage share -			
1960	46.44	14.09	6.32	0.23	2.14	30.79
1965	45.03	14.18	6.25	0.32	1.81	32.41
1970	39.53	18.45	6.79	0.45	2.71	32.07
1975	31.67	19.65	8.89	0.55	4.66	34.57
1976	30.80	21.00	9.06	0.58	4.57	34.00
1977	28.54	21.58	9.42	0.56	5.04	34.86
1978	28.32	19.96	9.89	0.57	5.42	35.83
1979	27.64	18.91	10.25	0.66	5.49	37.05
1980	27.45	17.62	10.30	0.67	5.60	38.36

B. Based on current prices (million US dollar)

	Agriculture	Mining and quarrying	Manufacture	Utilities	Construction	Services
			- Percentage share -			
1960	53.37	4.08	8.0	0.27	2.08	32.19
1965	58.25	2.73	7.28	0.02	1.90	29.83
1970	48.64	5.34	9.05	0.46	3.09	33.42
1975	31.67	19.65	8.89	0.55	4.66	34.57
1976	31.11	18.94	9.40	0.63	5.25	34.65
1977	31.06	18.93	9.56	0.56	5.38	34.50
1978	29.86	19.40	9.73	0.52	5.53	34.96
1979	28.96	22.50	8.43	0.48	5.77	33.86
1980	25.71	26.67	8.79	0.51	5.77	32.55

Source: UNIDO Data Base, information supplied by the United Nations Statistical Office, with estimates by the UNIDO Secretariat.

Annex Table 4

INDONESIA

ANNUAL GROWTH RATES OF REAL MANUFACTURING VALUE ADDED,1970-1980
(PERCENTAGES ON THE BASIS OF VALUES IN 1975 US$ CONSTANT PRICES)

ISIC	ISIC-DESCRIPTION	70/71	71/72	72/73	73/74	74/75	75/76	76/77	77/78	78/79	79/80	##/##
3110	FOOD PRODUCTS	5.8	9.6	0.0	12.5	11.1	48.0	17.6	-0.6	16.2	16.9	14.1
3130	BEVERAGES	26.2	41.5	13.3	11.8	5.3	-6.0	9.6	1.9	12.4	9.3	9.7
3140	TOBACCO	5.0	9.5	11.6	13.0	14.9	4.0	17.3	-0.8	0.0	21.5	9.4
3210	TEXTILES	-4.8	47.5	35.6	12.5	11.1	8.0	-1.9	4.7	4.5	5.2	11.8
3220	WEARING APPAREL,EXCEPT FOOTWEAR	35.8	13.9	11.0	5.5	4.2	...	...	...	...	...	12.6
3230	LEATHER PRODUCTS	87.0	0.0	58.1	41.2	4.2	29.0	...	...	...	...	31.5
3240	FOOTWEAR,EXCEPT RUBBER OR PLASTIC	61.0	12.1	-5.4	21.4	17.6	14.0	0.9	3.5	-5.9	16.1	10.1
3310	WOOD PRODUCTS,EXCEPT FURNITURE	11.0	0.0	-16.0	27.9	14.9	18.0	66.9	10.7	0.9	78.2	17.6
3320	FURNITURE,EXCEPT METAL	6.7	12.5	25.9	41.2	4.2	13.0	...	...	...	...	18.7
3410	PAPER AND PRODUCTS	25.0	30.0	63.5	11.8	5.3	-2.0	9.2	25.2	12.7	1.3	16.1
3420	PRINTING AND PUBLISHING	5.3	12.5	-15.6	142.1	8.7	24.0	...	...	...	...	24.3
3510	INDUSTRIAL CHEMICALS	15.5	7.5	25.0	5.6	5.3	-13.0	64.4	49.0	30.5	33.8	18.9
3520	OTHER CHEMICALS	19.5	-3.3	0.0	5.6	6.4	-2.0	-3.1	9.5	-1.0	19.4	3.2
3530	PETROLEUM REFINERIES	3.0	10.6	17.4	-11.9	-16.0	38.0	35.5	3.7	2.1	3.5	8.0
3550	RUBBER PRODUCTS	0.0	-4.3	13.6	50.0	33.3	37.0	22.6	20.8	11.6	13.2	22.8
3560	PLASTIC PRODUCTS	43.8	43.5	-6.1	90.3	69.5	-28.0	...	...	...	...	33.2
3610	POTTERY,CHINA,EARTHENWARE	7.4	13.7	-18.1	42.6	3.1	29.0	...	...	...	...	10.1
3620	GLASS AND PRODUCTS	7.1	11.1	80.0	5.6	5.3	-6.0	47.9	15.1	6.9	21.6	17.4
3690	OTHER NON-METALLIC MINERAL PRODUCTS	2.6	10.0	13.6	50.0	33.3	25.0	42.4	43.3	23.1	16.9	28.7
3710	IRON AND STEEL	66.7	140.0	38.9	50.0	33.3	37.0	2.9	27.7	146.1	133.4	50.2
3810	FABRICATED METAL PRODUCTS	3.0	17.6	50.0	36.7	22.0	9.0	22.0	15.8	0.0	11.7	20.2
3820	MACHINERY,EXCEPT ELECTRICAL	-3.3	6.9	58.1	69.4	20.5	-8.0	...	...	...	...	27.6
3830	MACHINERY ELECTRIC	11.1	0.0	40.0	78.6	33.3	23.0	40.7	25.4	0.9	43.8	30.8
3840	TRANSPORT EQUIPMENT	11.1	20.0	19.4	8.1	7.5	-9.0	-9.9	15.9	-15.8	55.0	5.6
3850	PROFESSIONAL & SCIENTIFIC EQUIPMENT	16.4	12.9	64.6	-19.0	-21.9	72.0	...	...	...	...	12.0
3900	OTHER MANUFACTURED PRODUCTS	16.4	12.9	64.6	-19.0	-21.9	72.0	...	...	...	...	12.0
3000	TOTAL MANUFACTURING	6.2	12.3	14.5	6.3	4.0	21.9	19.2	8.4	8.2	17.3	11.8

SOURCE: UNIDO DATA BASE:INFORMATION SUPPLIED BY THE UNITED NATIONS STATISTICAL OFFICE,WITH ESTIMATES BY THE UNIDO SECRETARIAT.

##/ THE INITIAL- AND/OR THE END-YEAR OF THE TREND-GROWTH,IS ALWAYS THE FIRST AND/OR THE LATEST YEAR SHOWN IN THE YEAR-TO-YEAR-GROWTH

NOTE: TOTAL MANUFACTURING IS THE SUM OF THE AVAILABLE COMPONENTS AND DOES NOT NECESSARILY CORRESPOND TO ISIC 300

Annex Table 5

INDONESIA

STRUCTURAL CHANGES OF VALUE ADDED IN MANUFACTURING, 1971-1980
(SECTORAL SHARES(PERCENTAGES) ON THE BASIS OF VALUES IN NATIONAL CURRENCY AT CURRENT PRICES)

ISIC	ISIC-DESCRIPTION	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
3000	TOTAL MANUFACTURING	100.0 a/	100.0 a/	100.0 a/	100.0 a/	100.0	100.0 a/	100.0 a/	100.0 a/	100.0 a/	100.0 a/
3110	FOOD PRODUCTS	33.9	31.5	24.5	26.7	21.0	16.8	18.0	16.4	18.1	11.1
3130	BEVERAGES	2.0	1.7	1.8	2.5	2.1	2.0	2.0	1.2	1.6	1.5
3140	TOBACCO	27.9	15.4	17.4	16.9	11.5	18.9	15.3	16.3	13.9	19.1
3210	TEXTILES	13.2	15.5	25.6	17.4	12.5	15.1	12.4	12.7	13.8	12.4
3220	WEARING APPAREL, EXCEPT FOOTWEAR	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.4	0.4
3230	LEATHER PRODUCTS	0.3	0.3	0.4	0.2	0.2	0.3	0.4	0.2	0.2	0.2
3240	FOOTWEAR, EXCEPT RUBBER OR PLASTIC	0.6	0.0	0.6	0.8	2.1	1.4	1.0	0.7	1.0	0.8
3310	WOOD PRODUCTS, EXCEPT FURNITURE	1.4	3.6	2.7	2.9	2.9	3.5	3.3	4.0	4.4	7.0
3320	FURNITURE, EXCEPT METAL	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2
3410	PAPER AND PRODUCTS	2.0	1.8	2.0	1.1	1.4	1.4	1.8	1.8	1.7	1.5
3420	PRINTING AND PUBLISHING	2.0	1.2	0.7	1.6	1.6	1.6	1.5	1.6	1.7	1.5
3510	INDUSTRIAL CHEMICALS	0.8	1.6	1.8	3.4	5.8	7.2	7.2	7.5	6.3	4.3
3520	OTHER CHEMICALS	3.8	9.2	5.3	4.0	4.3	5.2	6.6	5.6	4.6	7.1
3530	PETROLEUM REFINERIES	...	...	...	...	15.0	...	...	...	...	...
3540	MISC. PETROLEUM AND COAL PRODUCTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3550	RUBBER PRODUCTS	1.3	1.4	1.3	1.8	1.5	3.4	2.9	5.7	5.4	4.8
3560	PLASTIC PRODUCTS	0.5	0.6	0.4	0.8	0.9	0.7	1.1	1.2	1.1	0.7
3610	POTTERY, CHINA, EARTHENWARE	0.6	0.4	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2
3620	GLASS AND PRODUCTS	0.5	0.5	0.7	0.7	0.5	0.6	1.2	2.0	1.6	1.1
3690	OTHER NON-METALLIC MINERAL PRODUCTS	2.5	4.6	2.5	2.9	3.8	5.0	6.7	7.2	6.9	5.9
3710	IRON AND STEEL	...	...	...	0.2	0.2	0.8	1.2	0.5	1.3	3.1
3720	NON-FERROUS METALS	...	...	...	0.6	0.8	...	...	...	...	0.0
3810	FABRICATED METAL PRODUCTS	2.3	3.2	3.6	3.0	3.0	4.0	3.8	2.9	3.2	3.5
3820	MACHINERY, EXCEPT ELECTRICAL	0.4	1.0	1.2	2.3	1.4	1.0	1.2	1.7	2.0	1.6
3830	MACHINERY ELECTRIC	2.5	1.6	2.9	4.0	3.2	4.1	5.2	4.8	4.5	5.3
3840	TRANSPORT EQUIPMENT	0.9	4.0	3.4	5.5	3.5	5.9	6.3	5.0	5.3	6.4
3850	PROFESSIONAL & SCIENTIFIC EQUIPMENT	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
3900	OTHER MANUFACTURED PRODUCTS	0.3	0.6	0.8	0.4	0.2	0.5	0.3	0.2	0.3	0.4
TOTAL	MANUFACTURING IN MILLIONS	135990	205965	309510	381770	572400	648400	774500	1008330	1290400	2130000

SOURCE: UNIDO DATA BASE. INFORMATION SUPPLIED BY THE UNITED NATIONS STATISTICAL OFFICE, WITH ESTIMATES BY THE UNIDO SECRETARIAT.

FOOTNOTES:
a/ 3000-3530

Annex Table 6

Indonesia: Structural change of manufacturing value added according to end use of manufactured products, 1971-1980

(Based on current prices in national currency)

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
					- Percentage share -					
Consumer goods[b/]	80.8	66.6	72.0	66.8	60.8 (51.7)	56.7	51.1	49.8	51.2	47.6
Intermediate goods[c/]	13.1	23.6	17.1	18.4	26.1 (37.2)	28.3	32.3	35.7	33.7	35.5
Capital goods[d/] [e/]	6.1	9.8	10.9	14.8	13.1 (11.1)	15.0	16.6	14.5	15.1	16.9
Total manufacturing	100	100	100	100	100 (100)[f/]	100	10C	100	100	100

Source: UNIDO data base; information supplied by the United Nations Statistical Office, with estimates by the UNIDO secretariat (see Annex Table 5).

Footnotes:

a/ ISIC 3000 - 3530.
b/ ISIC 3110, 3130, 3140, 3210, 3220, 3240, 3320, 3420, 3610, 3900.
c/ ISIC 3230, 3310, 3410, 3510, 3520, 3530, 3540, 3550, 3560, 3620, 3690, 3710, 3720.
d/ ISIC 3810, 3820, 3830, 3840, 3850.
e/ Includes also some consumer durables.
f/ ISIC 3000.

Annex Table 7

Indonesia: Production of selected commodities, 1970, 1975-1980.

	1970	1975	1976	1977	1978	1979	1980
Mainly consumer goods:							
Cement (tons)	514,993	1,077,179	1,809,656	2,548,545	3,648,875	4,431,530	5,259,380
Paper (tons)	11,693	45,905	49,744	53,770	69,606	74,355	78,214
Yarn (bales)	184,632	128,781	136,078	135,746	166,040	140,975	147,085
Beer (1,000 liters)	18,899[b]	49,861	46,991	51,284	52,187	53,842	64,403
Cigarettes (million pieces)	9,694	16,194	16,840	16,910	18,899	21,425	22,429
Capital goods (ISIC 382,383,384) (Number of units):							
Engines diesel (382104)	...	8,000	24,000	25,300	30,400	25,000	34,100
Concrete mixers for use at construction site (382434)	35	...	...	...	...	...	...
Sewing machines (382910)	5,000	520,000	400,000	485,000	600,000	480,000	525,000
Air conditioning machines (382925)	...	8,000	24,000	23,000	8,000	36,000	...
Pumps for liquids, excl. liquid elevators (382942)	3,000	...	...	...	...	...	...
Tankers, launched (384113)	-	3	-	-	4	-	-
Other sea-going merchant vessels, launched (384116)	1	6	10	2	7	3	3
Buses, etc., assembled from imported parts (384312)	...	...	44,398	69,379	65,196	61,015	...
Iron and steel (ISIC 371) (Metric tons):							
Crude steel for castings (371016)[a]	...	100,000	139,000	250,000	225,000	305,000	360,000
Chemicals (ISIC 351, 352) (Metric tons):							
Methanol (Methyl alchohol) (351121)	8,754	...	...	...	...	...	...
Butyl alchohol (351122)	6,151	...	...	...	...	...	...
Clycerine (Glycerol) (351125)	3,188	...	...	...	...	...	...
Hydrochloril acid (351146)	780	3,962	3,804	1,260	1,684	3,986	...
Sulphuric acid(351147)	...	16,000	8,000	17,000	16,000	11,000	...
Ammonia (351158)	2,000	...	...	8,000	9,000	7,000	...
Caustic soda (351159)	2,000	-	-	-	-	-	...

(cont'd)	1970	1975	1976	1977	1978	1979	1980
Aluminum sulphate (351163)	...	16,170	13,570	11,292	13,206	6,409	...
Nitrogenous fertilizers (351201)	39,000	121,000	208,000	184,000	396,000	694,000	875,000
Super phosphates (351204)	-	-	-	-	-	-	53,000
Phosphatic fertilizers, other (351207)	-	-	-	-	-	-	1,000
Multinutrient fertilizers N content (351213)	-	-	-	-	-	-	1,000
Multinutrient fertilizers P 205 content (35121)	-	-	-	-	-	-	1,000
Insecticides, fungicides, etc. (351216)	20,164	...	...	...	...	...	...
Non-cellulosic staple and tow (351304)	...	4,200	2,500	37,200	45,400	50,300	53,900
Non-cellulosic continous fibres (351337)	...	3,600	11,000	17,300	21,300	22,700	41,500
Paints, cellulose (352101)	...	...	...	...	818	9,233	...
Paints, water (352104)	...	...	...	...	197	50	...
Paints, other (352107)	7,525	...	...	...	15,544	8,118	...
Soap (352301)	43,913	46,182	45,046	47,915	50,196	55,531	...
Washing powder and detergents (352304)	2,621	33,636	33,613	37,101	38,481	43,036	43,000
Carbon black (352901)	-	3,200	1,715	974	...	...	...
Printers ink (352904)	22	762	822	1,256	1,887	2,670	...
Petrochemicals (ISIC 353, 354, 356) (Metric tons):							
Aviation gasolene (353001)	20,000	21,000	15,000	13,000	16,000	15,000	18,000
Jet fuels (353004)	118,000	118,000	108,000	94,000	130,000	185,000	241,000
Motor gasolene (353007)	1,421,000	1,854,000	1,531,000	1,858,000	2,082,000	2,318,000	2,812,000
Naphthas (353010)	-	392,000	371,000	914,000	900,000	870,000	850,000
Kerosene (353013)	1,914,000	3,200,000	2,925,000	3,902,000	3,863,000	4,482,000	4,396,000
White spirit (353016)	10,000	24,000	21,000	25,000	20,000	20,000	23,000
Distillate fuel oils (353019)	1,248,000	2,891,000	2,703,000	3,793,000	4,385,000	4,578,000	4,719,000
Residual fuel oils (353022)	5,538,000	6,643,000	7,662,000	9,469,000	9,742,000	11,101,000	11,336,000
Lubricating oils (353025)	2,000	4,000	2,000	3,000	4,000	5,000	4,000
Paraffin wax (353028)	66,000	36,000	34,000	42,000	38,000	43,000	38,000
Petroleum coke (353031)	40,000	36,000	28,000	34,000	35,000	30,000	34,000
Bitumen (asphalt) (353034)	49,000	54,000	47,000	83,000	80,000	85,000	80,000
Liquefied petroleum gas from natural gas plant (3530371)	3,000	1.000	1,000	2,000	3,000	3,000	2,000
Liquefied petroleum gas from petroleum refineries (3530372)	13,000	29,000	25,000	26,000	25,000	30,000	35,000

Source: UNIDO *Asian Industry in Figures; A Statistical Profile of Key Sectors in Selected ESCAP Countries*, UNIDO/IS.390, 15 June 1983.

Footnotes:
a/ Including crude steel, ignots (ISIC 371019)
b/ 1971.
- In general, three dots (...) indicate that data are not available, or are not separately reported.
- A dash (-) indicates that the amount is nil or negligible.

Annex Table 8

Indonesia: Indicators of Apparent Consumption of Selected Manufactures 1970-72 and 1976-78

Product (ISIC; unit of measurement)	Average annual per capita apparent consumption		Production		Imports		Per capita apparent consumption as a ratio to the OECD average (weighted)	
			As a percentage of apparent consumption					
	1970-1972	1976-1978	1970-1972	1976-1978	1970-1972	1976-1978	1970-1972	1976-1978
Food products (311)								
Beef and veal, fresh (101;kg) a/	1.3	1.3	100.0	99.5	0.0	0.5	0.042	0.038
Milk and cream, condensed (201;g) a/b/	325.0	381.0	97.8	96.6	2.1	3.4	0.081	0.120
Milk and cream, dried (204;g) a/b/	236.0	338.0	18.3	20.9	81.7	79.1	0.059	0.073
Butter (207;g) b/	...	50.0	...	4.1	...	95.9	...	0.013
Vegetables, tinned or bottled (322;g) a/b/	8.0	9.0	23.4	22.8	79.6	101.9	0.001	0.002
Fish, tinned (407;g) a/b/	49.0	164.0	44.9	20.3	55.8	80.2	0.029	0.095
Flour, wheat (601;kg) a/b/	1.8	5.3	67.5	99.6	32.5	0.4	0.038	0.098
Flour, cereal, other than wheat (607;kg) b/	...	0.4	...	98.8	...	1.2	...	0.010
Bread, ships' biscuits, etc. (704;kg) b/	...	0.1	...	99.4	...	0.6	...	0.004
Raw sugar (801;kg) a/	6.9	7.7	100.0	99.6	0.0	0.4	0.173	0.179
Refined sugar (804;kg) a/b/	7.2	9.3	91.4	84.1	8.6	15.9	0.179	0.227
Prepared animal feeds (312201;kg) b/	...	1.6	...	99.7	...	0.3	...	0.009
Vegetable oils (311)								
Oil, soya bean (510 and 513;kg) c/a/	0.1	...	100.0	...	0.0	...	0.007	...
Oil, ground nut (522 and 525;kg) c/a/d/	0.2	0.2	100.0	106.6	0.0	0.0	0.118	0.167
Oils, other, of vegetable origin (534 and 537;kg) b/	...	1.5	...	303.0	...	3.4	...	0.185
Textiles (321)								
Wool pured and mixed (103;g)	...	-	...	0.0	...	100.0	...	0.000
Cotton yarn, pured and mixed (109;g) a/b/	478.0	528.0	58.7	98.9	41.3	1.1	0.109	0.122
Cotton woven fabrics (128;g) c/a/d/	330.0	722.0	92.8	99.8	7.2	0.2	0.117	0.235
Pulp and paper (341)								
Wood pulp, mechanical (101; kg) e/f/	-	...	100.0	...	0.0	...	0.000	...
Pulp of fibres other than wood (104; kg) a/	0.2	0.3	90.7	91.7	9.3	8.3	0.095	0.161
Newsprint (119;kg) a/	0.3	0.5	7.1	2.3	92.9	97.7	0.012	0.019
Other printing and writing paper (122;kg) a/	0.3	0.6	15.4	63.3	84.6	36.7	0.009	0.015
Industrial chemicals (351)								
Methanol (methyl alcohol) (121;g)	73.0	...	100.0	...	0.0	...	0.009	...
Sulphuric acid (147;kg)	...	0.1	...	89.9	...	10.1	...	0.004
Nitric acid (149;kg) a/	-	-	0.0	0.0	100.0	100.0	0.000	0.000
Ammonia (158;kg) a/g/	-	-	90.8	96.0	9.2	4.0	0.000	0.000
Caustic soda (159;kg) e/f/	0.2	...	8.8	...	91.2	...	0.007	...
Calcium carbide (173;kg) a/	0.1	0.1	0.0	0.0	100.0	100.0	0.015	0.032
Dyestuffs, synthetic (174;g) a/	56.0	60.0	0.0	0.0	100.0	100.0	0.104	0.109
Nitrogenous fertilizers (201;kg) a/	3.6	0.8	10.4	238.4	89.6	32.6	0.164	0.029
Phosphatic fertilizers (204 and 207;kg) b/	0.3	0.3	0.0	0.0	100.0	100.0	0.022	0.022
Potassic fertilizers (210;kg) b/	0.1	0.2	0.0	0.0	100.0	100.0	0.005	0.010
Insecticides, fungic., disinfect., etc. (216;g) a/	90.0	...	23.7	...	76.3	...	0.043	...
Rubber, synthetic (301;kg)	...	65.0	...	0.0	...	100.0	...	0.008
Petroleum refineries (353)								
Distillate fuel oils (019;kg) a/	13.0	24.9	90.2	93.4	9.8	10.5	0.023	0.040
Residual fuel oils (022;kg)	27.4	59.5	199.8	112.6	0.0	6.1	0.048	0.112
Iron and steel (371)								
Wire rods (028;kg)	...	0.9	...	0.0	...	100.0	...	0.029
Angles, shapes, sections, 80 mm or more (036;kg)	...	0.1	...	0.0	...	100.0	...	0.004
Angles, shapes, sections, under 80 mm (037;kg)	...	0.1	...	0.0	...	100.0	...	0.002
Plates (heavy), over 4.75 mm (040;kg) f/	0.2	0.5	0.0	0.0	100.0	100.0	0.005	0.012
Plates (medium), 3 to 4.5 mm (043;kg) f/	-	0.2	0.0	0.0	100.0	100.0	0.000	0.017
Tubes, seamless (076;kg) a/	0.6	0.5	0.0	0.0	100.0	100.0	0.032	0.045
Tubes, welded (079;kg) f/	0.3	-	0.0	0.0	100.0	100.0	0.012	0.000
Steel castings in the rough state (085;kg) f/	-	-	0.0	0.0	100.0	100.0	0.000	0.000
Steel forgings (088;kg) f/	-	-	0.0	0.0	100.0	100.0	0.000	0.000
Non-ferrous metals (372)								
Copper, refined, unwrought (004;g) a/ f/ b/	-	1.0	0.0	0.0	100.0	100.0	0.000	0.000
Aluminum, unwrought (022;g) a/	1.0	76.0	0.0	0.0	100.0	100.0	0.000	0.004
Lead, refined, unwrought (037;g) a/	5.0	34.0	0.0	0.0	100.0	100.0	0.001	0.007
Zinc, unwrought (043;g) a/	233.0	257.0	0.0	0.0	100.0	100.0	0.042	0.051
Tin, unwrought (049;g) a/	21.0	62.0	398.2	279.8	3.4	0.1	0.089	0.257

Source: UNIDO Handbook of Industrial Statistics, ID/284; E.82.III.2;1982.

a/ For first period: 1971 and 1972.
b/ For second period: 1976 and 1977.
c/ Estimates.
d/ For second period/ 1976 only.
e/ Trade data for 1970 refer only to trade with OECD countries.
f/ For first period: 1970 only.
g/ For second period: 1977 only.

Annex Table 9

Relative degree of industrialization in the 1970s by industrial branch

ISIC	Description	All countries	Developing countries	Comparable country group a/
311,2	Food products	1.03	1.24	1.30
313	Beverages	0.48	0.52	0.87
314	Tobacco	1.60	1.38	1.73
321	Textiles	0.44	0.36	0.63
322	Wearing apparel	0.05	0.07	0.10
323	Leather and fur products	0.29	0.31	0.49
324	Footwear	0.73	0.82	0.96
331	Wood and cork products	1.02	1.16	1.21
332	Furniture and fixtures excluding metal(332)	0.35	0.41	0.41
341	Paper	0.68	0.68	0.74
342	Printing and publishing (342)	0.77	0.83	0.73
351	Industrial chemicals	1.29	1.30	1.34
352	Other chemicals	0.73	0.67	0.76
353	Petroleum refineries	7.77	9.25	10.92
354	Miscellaneous products of petroleum and coal	...	...	...
355	Rubber products	1.75	1.26	1.46
356	Plastic products	0.86	0.89	0.90
361	Pottery, china and earthenware	0.35	0.28	0.35
362	Glass	0.50	0.37	0.54
369	Other non-metallic mineral products	1.26	1.29	1.82
371	Iron and steel	0.07	0.04	0.07
372	Non-ferrous metals	...	...	...
381	Metal products, excluding machinery	0.63	0.61	0.65
382	Non-electrical machinery	0.90	0.72	0.92
383	Electric machinery	1.13	1.03	0.97
384	Transport equipment	1.49	1.38	1.79
385	Professional and scientific equipment, photographic and optical goods	0.60	0.56	0.68
390	Other manufactures	0.27	0.23	0.18
300	Total manufacturing	0.46	0.48	0.65

Source: UNIDO: Handbook of Industrial Statistics, ID/284, E.82.II.B.2, 1982.

a/ Large countries.

Indicators of Net Manufacturing Output. 1970 and 1977

Branch (ISIC)	Relative Specialization in Manufacturing Output[a]	
	1970	1977
Food products (311/2)	2.21	1.48
Beverages (313)	0.52	0.60
Tobacco (314)	9.15	9.63
Textiles (321)	1.55	1.91
Wearing apparel (322)	0.01	0.03[b]
Leather and fur products (323)	0.16	0.40[b]
Footwear (324)	0.37	1.10
Wood and cork products (331)	1.11	1.37
Furniture and fixtures excluding metal (332)	0.10	0.15
Paper (341)	0.16	0.25
Printing and publishing (342)	0.18	0.44
Industrial chemicals (351)	0.52	0.94
Other chemicals (352)	1.27	0.58
Petroleum refineries (353)	17.20	14.37
Miscellaneous products of petroleum and coal (354)	....	....
Rubber products (355)	1.32	0.61
Plastic products (356)	0.12	0.31
Pottery, china and earthenware (361)	0.28	0.37[b]
Glass (362)	0.24	0.57[b]
Other non-metallic mineral products (369)	0.99	2.20
Iron and steel (371)	0.03[b]	0.04[b]
Non-ferrous metals (372)	....	....
Metal products, excluding machinery (381)	0.19	0.48[b]
Non-electrical machinery (382)	0.05	0.14[b]
Electrical machinery (383)	0.17	0.27
Transport equipment (384)	0.15	0.38
Professional and scientific equipment, photographic and optical goods (385)	0.02	0.02[b]

Source: UNIDO Handbook of Industrial Statistics, ID/284; E.82.II.B.2, 1982.

[a] Relative to all large countries.
[b] Estimated.

Annex Table 11

INDON

NUMBER OF ESTABLISHMENTS,EMPLOYMENT,WAGES AND SALARIES
MONEY VALUES IN NATIONAL CURRENCY(AT CURRENT PRICES)

		NUMBER OF ESTABLISHMENTS		EMPLOYMENT		WAGES AND SALARIES	
		ESTABLISHM.	ESTABLISHM.	EMPLOYEES	EMPLOYEES	(MILLIONS)	
ISIC	C-DESCRIPTION	1970	1980	1970	1980	1970	1980
3000	AL MANUFACTURING	5049 A/	8054 A/	486650 A/	963000 A/	25045 A/	448792 A/
3110	D PRODUCTS	1045	1674	92000	153500	7450	71370
3130	ERAGES	50	100	3900	7200	330	8321
3140	ACCO	870	715	132000	158700	3730	33563
3210	TILES	1640	1957	142500	229900	5710	77249
3220	HING APPAREL,EXCEPT FOOTWEAR	80	134	3000	15500	35	4881
3230	THER PRODUCTS	28	40	1600	3100	80	1137
3240	TWEAR,EXCEPT RUBBER OR PLASTIC	23	57	3300	7500	250	3294
3310	D PRODUCTS,EXCEPT FURNITURE	107	483	7000	58900	360	31220
3320	NITURE,EXCEPT METAL	43	137	1700	5700	90	2370
3410	ER AND PRODUCTS	40	84	4450	11900	245	7467
3420	NTING AND PUBLISHING	196	279	12200	19900	695	12149
3510	USTRIAL CHEMICALS	43	97	5000	13900	440	17067
3520	ER CHEMICALS	187	297	20250	40800	1570	34090
3530	ROLEUM REFINERIES	...	...	...	...	...	...
3540	SC. PETROLEUM AND COAL PRODUCTS	0	0	0	0	0	0
3550	BER PRODUCTS	56	222	5650	36900	750	20588
3560	STIC PRODUCTS	80	221	5500	17700	270	6043
3610	TERY,CHINA,EARTHENWARE	6	21	600	6800	70	2530
3620	ASS AND PRODUCTS	26	49	3150	8900	140	5669
3690	HER NON-METALLIC MINERAL PRODUCTS	205	570	8750	30700	880	17342
3710	ON AND STEEL	...	23	...	8800	...	8932
3720	N-FERROUS METALS	...	0	...	0	...	0
3810	RICATED METAL PRODUCTS	150	363	13700	40800	870	21297
3820	CHINERY,EXCEPT ELECTRICAL	47	132	4400	11900	280	4101
3830	CHINERY ELECTRIC	19	113	3400	37400	200	24318
3840	ANSPORT EQUIPMENT	39	178	6450	29900	420	27475
3850	OFESSIONAL & SCIENTIFIC EQUIPMENT	0	25	0	1000	0	360
3900	HER MANUFACTURED PRODUCTS	69	83	6150	5700	180	1962

SOUR UNIDO DATA BASE,INFORMATION SUPPLIED BY THE UNITED NATIONS STATISTICAL OFFICE,WITH ESTIMATES BY THE UNIDO SECRETARIAT.

FOOT ES:

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(Annex Table 11 continued)

ESIA

NUMBER OF ESTABLISHMENTS,EMPLOYMENT,WAGES AND SALARIES
BRANCH SHARES(IN PERCENT) IN TOTAL MANUFACIURING

	NUMBER OF ESTABLISHMENTS		EMPLOYMENT		WAGES AND SALARIES	
	ESTABLISHM.	ESTABLISHM.	EMPLOYEES	EMPLOYEES		
	(PERCENT)		(PERCENT)		(PERCENT)	
ISIC-DESCRIPTION	1970	1980	1970	1980	1970	1980
TOTAL MANUFACTURING	100.00 a/	100.00 a/	100.00 a/	100.00 a/	100.00 a/	100.00 a/
FOOD PRODUCTS	20.70	20.78	18.90	15.94	29.75	15.90
BEVERAGES	0.99	1.24	0.80	0.75	1.32	1.85
TOBACCO	17.23	8.88	27.12	16.48	14.89	7.48
TEXTILES	32.48	24.30	29.28	23.87	22.80	17.21
WEARING APPAREL,EXCEPT FOOTWEAR	1.58	1.66	0.62	1.61	0.14	1.09
LEATHER PRODUCTS	0.55	0.50	0.33	0.32	0.32	0.25
FOOTWEAR,EXCEPT RUBBER OR PLASTIC	0.46	0.71	0.68	0.78	1.00	0.73
WOOD PRODUCTS,EXCEPT FURNITURE	2.12	6.00	1.44	6.12	1.44	6.96
FURNITURE,EXCEPT METAL	0.85	1.70	0.35	0.59	0.36	0.53
PAPER AND PRODUCTS	0.79	1.04	0.91	1.24	0.98	1.66
PRINTING AND PUBLISHING	3.88	3.46	2.51	2.07	2.78	2.71
INDUSTRIAL CHEMICALS	0.85	1.20	1.03	1.44	1.76	3.80
OTHER CHEMICALS	3.70	3.69	4.16	4.24	6.27	7.59
PETROLEUM REFINERIES	...	...	...	...	...	...
MISC. PETROLEUM AND COAL PRODUCTS	0.00	0.00	0.00	0.00	0.00	0.00
RUBBER PRODUCTS	1.11	2.76	1.16	3.83	2.99	4.59
PLASTIC PRODUCTS	1.58	2.74	1.13	1.84	1.08	1.35
POTTERY,CHINA,EARTHENWARE	0.12	0.26	0.12	0.71	0.28	0.56
GLASS AND PRODUCTS	0.51	0.61	0.65	0.92	0.56	1.26
OTHER NON-METALLIC MINERAL PRODUCTS	4.06	7.08	1.80	3.19	3.51	3.86
IRON AND STEEL	...	0.29	...	0.91	...	1.99
NON-FERROUS METALS	...	0.00	...	0.00	...	0.00
FABRICATED METAL PRODUCTS	2.97	4.51	2.82	4.24	3.47	4.75
MACHINERY,EXCEPT ELECTRICAL	0.93	1.66	0.90	1.24	1.12	1.81
MACHINERY ELECTRIC	0.38	1.40	0.70	3.88	0.80	5.42
TRANSPORT EQUIPMENT	0.77	2.21	1.33	3.10	1.68	6.12
PROFESSIONAL & SCIENTIFIC EQUIPMENT	0.00	0.31	0.00	0.10	0.00	0.08
OTHER MANUFACTURED PRODUCTS	1.37	1.03	1.26	0.59	0.72	0.44

CE: UNIDO DATA BASE,INFORMATION SUPPLIED BY THE UNITED NATIONS STATISTICAL OFFICE,WITH ESTIMATES BY THE UNIDO SECRETARIAT.

NOTES:

a/ 3000-3530

Annex Table 12

ONESIA

GROSS OUTPUT,VALUE ADDED,GROSS FIXED CAPITAL FORMATION
MONEY VALUES IN NATIONAL CURRENCY(AT CURRENT PRICES)

C	ISIC-DESCRIPTION	GROSS OUTPUT AT PRODUCERS" VALUES (MILLIONS) 1970	GROSS OUTPUT AT PRODUCERS" VALUES (MILLIONS) 1980	VALUE ADDED AT FACTOR VALUES (MILLIONS) 1970	VALUE ADDED AT FACTOR VALUES (MILLIONS) 1980	GROSS FIXED CAPITAL FORMATION (MILLIONS) 1970	GROSS FIXED CAPITAL FORMATION (MILLIONS) 1980
0	TOTAL MANUFACTURING	300420 a/	6818400 a/	91210 a/	2130000 a/	37400	452840
0	FOOD PRODUCTS	104970	1013600	32520	235900	15120	40790
30	BEVERAGES	3760	78800	1725	32100	70	4580
40	TOBACCO	93410	1204000	26240	406700	1320	13660
10	TEXTILES	38945	841300	10780	263400	10200	107380
20	WEARING APPAREL,EXCEPT FOOTWEAR	775	28700	655	9100	0	3690
30	LEATHER PRODUCTS	620	18400	170	3300	170	1380
40	FOOTWEAR,EXCEPT RUBBER OR PLASTIC	2530	31300	1550	16400	120	2240
10	WOOD PRODUCTS,EXCEPT FURNITURE	2250	376800	785	149800	100	43730
20	FURNITURE,EXCEPT METAL	360	8800	170	3600	0	1140
10	PAPER AND PRODUCTS	765	102500	240	31900	10	7700
20	PRINTING AND PUBLISHING	2525	89300	785	31900	290	8140
10	INDUSTRIAL CHEMICALS	3060	316000	1265	90800	730	21280
20	OTHER CHEMICALS	16100	369400	4315	151300	1030	22210
530	PETROLEUM REFINERIES	...	...	...	...	0	0
540	MISC. PETROLEUM AND COAL PRODUCTS	0	0	0	0	0	0
550	RUBBER PRODUCTS	8735	540400	1240	102600	4620	13280
560	PLASTIC PRODUCTS	1315	71200	280	15500	300	7910
610	POTTERY,CHINA,EARTHENWARE	215	12400	45	5100	0	7680
20	GLASS AND PRODUCTS	795	48100	160	22500	10	7210
690	OTHER NON-METALLIC MINERAL PRODUCTS	5490	245600	2865	125100	280	68430
710	IRON AND STEEL	...	237700	...	67000	0	8130
720	NON-FERROUS METALS	...	0	...	0	0	0
810	FABRICATED METAL PRODUCTS	7540	285300	3040	74200	1130	20340
820	MACHINERY,EXCEPT ELECTRICAL	1170	81300	415	33400	80	3540
830	MACHINERY ELECTRIC	1190	387200	375	112600	330	16020
840	TRANSPORT EQUIPMENT	2980	402800	845	136100	1460	20340
050	PROFESSIONAL & SCIENTIFIC EQUIPMENT	0	2800	0	1400	0	120
900	OTHER MANUFACTURED PRODUCTS	920	24700	745	8300	30	1940

OURCE: UNIDO DATA BASE,INFORMATION SUPPLIED BY THE UNITED NATIONS STATISTICAL OFFICE,WITH ESTIMATES BY THE UNIDO SECRETARIAT.

OOTNOTES:

a/ 3000 3530

(Annex Table 12 continued)

INDONESIA

GROSS OUTPUT,VALUE ADDED,GROSS FIXED CAPITAL FORMATION
BRANCH SHARES(IN PERCENT) IN TOTAL MANUFACTURING

		GROSS OUTPUT AT PRODUCERS" VALUES (PERCENT)		VALUE ADDED AT FACTOR VALUES (PERCENT)		GROSS FIXED CAPITAL FORMATION (PERCENT)	
ISIC	ISIC-DESCRIPTION	1970	1980	1970	1980	1970	1980
3000	TOTAL MANUFACTURING	100.00 A/	100.00 A/	100.00 A/	100.00 A/	100.00	100.00
3110	FOOD PRODUCTS	34.94	14.87	35.65	11.08	40.43	9.01
3130	BEVERAGES	1.25	1.16	1.89	1.51	0.19	1.01
3140	TOBACCO	31.09	17.66	28.77	19.09	3.53	3.02
3210	TEXTILES	12.96	12.34	11.82	12.37	27.27	23.71
3220	WEARING APPAREL,EXCEPT FOOTWEAR	0.26	0.42	0.72	0.43	0.00	0.81
3230	LEATHER PRODUCTS	0.21	0.27	0.19	0.15	0.45	0.30
3240	FOOTWEAR,EXCEPT RUBBER OR PLASTIC	0.84	0.46	1.70	0.77	0.32	0.49
3310	WOOD PRODUCTS,EXCEPT FURNITURE.	0.75	5.53	0.86	7.03	0.27	9.66
3320	FURNITURE,EXCEPT METAL	0.12	0.13	0.19	0.17	0.00	0.25
3410	PAPER AND PRODUCTS	0.25	1.50	0.26	1.50	0.03	1.70
3420	PRINTING AND PUBLISHING	0.84	1.31	0.86	1.50	0.78	1.80
3510	INDUSTRIAL CHEMICALS	1.02	4.63	1.39	4.26	1.95	4.70
3520	OTHER CHEMICALS	5.36	5.42	4.73	7.10	2.75	4.90
3530	PETROLEUM REFINERIES	...	...	...	...	0.00	0.00
3540	MISC. PETROLEUM AND COAL PRODUCTS	0.00	0.00	0.00	0.00	0.00	0.00
3550	RUBBER PRODUCTS	2.91	7.93	1.36	4.82	12.35	2.93
3560	PLASTIC PRODUCTS	0.44	1.04	0.31	0.73	0.80	1.75
3610	POTTERY,CHINA,EARTHENWARE	0.07	0.18	0.05	0.24	0.00	1.70
3620	GLASS AND PRODUCTS	0.26	0.71	0.18	1.06	0.03	1.59
3690	OTHER NON-METALLIC MINERAL PRODUCTS	1.03	3.60	3.14	5.87	0.75	15.11
3710	IRON AND STEEL	...	3.49	...	3.15	0.00	1.80
3720	NON-FERROUS METALS	...	0.00	...	0.00	0.00	0.00
3810	FABRICATED METAL PRODUCTS	2.51	4.18	3.33	3.48	3.02	4.49
3820	MACHINERY,EXCEPT ELECTRICAL	0.39	1.19	0.45	1.57	0.21	0.78
3830	MACHINERY ELECTRIC	0.40	5.68	0.41	5.29	0.88	3.54
3840	TRANSPORT EQUIPMENT	0.99	5.91	0.93	6.39	3.90	4.49
3850	PROFESSIONAL & SCIENTIFIC EQUIPMENT	0.00	0.04	0.00	0.07	0.00	0.63
3900	OTHER MANUFACTURED PRODUCTS	0.31	0.36	0.82	0.39	0.08	0.43

SOURCE: UNIDO DATA BASE,INFORMATION SUPPLIED BY THE UNITED NATIONS STATISTICAL OFFICE,WITH ESTIMATES BY THE UNIDO SECRETARIAT.

FOOTNOTES:

A/ 3000 3530

Annex Table 13

INDONESIA

PERFORMANCE OF MANUFACTURING SECTOR BY BRANCHES

ISIC	ISIC-DESCRIPTION	VALUE ADDED PER EMPLOYEE (THOUSAND US$)		VALUE ADDED PER ESTABLISHMENT (THOUSAND US$)		SHARE OF WAGES & SALARIES IN VALUE ADDED PERCENT		SHARE OF GFCF IN VALUE ADDED PERCENT		SHARE OF VALUE ADDED IN GROSS OUTPUT PERCENT	
		1970	1980	1970	1980	1970	1980	1970	1980	1970	1980
3000	TOTAL MANUFACTURING	0.5A/	3.5A/	49A/	423A/	27.5A/	21.1A/	...	...	30.4A/	31.2A/
3110	FOOD PRODUCTS	1.0	2.5	85	225	22.9	30.3	46.5	17.3	31.0	23.3
3130	BEVERAGES	1.2	7.1	95	514	19.1	25.9	4.1	14.3	45.9	40.7
3140	TOBACCO	0.5	4.1	83	910	14.2	8.3	5.0	3.4	28.1	33.8
3210	TEXTILES	0.2	1.8	18	215	53.0	29.3	94.6	40.8	27.7	31.3
3220	WEARING APPAREL,EXCEPT FOOTWEAR	0.6	0.9	22	109	5.3	53.6	...	40.5	84.5	31.7
3230	LEATHER PRODUCTS	0.3	1.7	17	132	47.1	34.5	100.0	41.2	27.4	17.9
3240	FOOTWEAR,EXCEPT RUBBER OR PLASTIC	1.3	3.5	185	460	16.1	20.1	7.7	13.7	61.3	52.4
3310	WOOD PRODUCTS,EXCEPT FURNITURE	0.3	4.1	20	496	45.9	20.8	12.7	29.2	34.9	39.8
3320	FURNITURE,EXCEPT METAL	0.3	1.0	11	42	52.9	65.8	...	31.7	47.2	40.9
3410	PAPER AND PRODUCTS	0.1	4.3	16	608	102.1	23.4	4.2	24.1	31.4	31.1
3420	PRINTING AND PUBLISHING	0.2	2.6	11	183	88.5	38.1	36.9	25.5	31.1	35.7
3510	INDUSTRIAL CHEMICALS	0.7	10.5	81	1498	34.8	18.8	57.7	23.4	41.3	28.7
3520	OTHER CHEMICALS	0.6	5.9	63	815	36.4	22.5	23.9	14.7	26.8	41.0
3530	PETROLEUM REFINERIES	...	...	...	...	...	...	...	...	...	...
3540	MISC. PETROLEUM AND COAL PRODUCTS	...	...	...	...	...	...	...	...	...	...
3550	RUBBER PRODUCTS	0.6	4.4	61	739	60.5	20.1	372.6	12.9	14.2	19.0
3560	PLASTIC PRODUCTS	0.1	1.4	10	112	96.4	39.0	107.1	51.0	21.3	21.8
3610	POTTERY,CHINA,EARTHENWARE	0.2	1.2	21	389	155.6	49.6	...	150.6	20.9	41.1
3620	GLASS AND PRODUCTS	0.1	4.0	17	735	87.5	25.2	6.3	32.0	20.1	46.8
3690	OTHER NON-METALLIC MINERAL PRODUCTS	0.9	6.5	38	351	30.7	13.9	9.8	54.7	52.2	50.9
3710	IRON AND STEEL	...	12.2	...	4661	...	13.3	...	12.1	...	28.2
3720	NON-FERROUS METALS	...	...	...	...	...	...	...	...	...	...
3810	FABRICATED METAL PRODUCTS	0.6	2.9	56	327	28.6	28.7	37.2	27.4	40.3	26.0
3820	MACHINERY,EXCEPT ELECTRICAL	0.3	4.5	24	405	67.5	24.3	19.3	10.6	35.5	41.1
3830	MACHINERY ELECTRIC	0.3	4.8	54	1594	53.3	21.6	88.0	14.2	31.5	29.1
3840	TRANSPORT EQUIPMENT	0.4	7.3	59	1223	49.7	20.2	172.8	14.9	28.4	33.8
3850	PROFESSIONAL & SCIENTIFIC EQUIPMENT	...	2.2	...	90	...	26.3	...	8.6	...	50.0
3900	OTHER MANUFACTURED PRODUCTS	0.3	2.3	30	160	24.2	23.6	4.0	23.4	81.0	33.6

SOURCE: UNIDO DATA BASE,INFORMATION SUPPLIED BY THE UNITED NATIONS STATISTICAL OFFICE,WITH ESTIMATES BY THE UNIDO SECRETARIAT.

a/ VALUE ADDED(IN US $) WAS CALCULATED USING VALUE ADDED IN NATIONAL CURRENCY AND MID-YEAR EXCHANGE RATES

FOOTNOTES:

A/ 3000-3530

Annex Table 14

Productivity index - value added per employee relative to total manufacturing (=100)

1970 and 1980

		1970	1980
300	Total manufacturing	100	100
311	Food products	200	71
313	Beverages	240	203
314	Tobacco	100	117
321	Textiles	40	51
322	Wearing apparel, except footwear	120	26
323	Leather products	60	49
324	Footwear, exept rubber or plastic	260	100
331	Wood products, except furniture	60	117
332	Furniture, except metal	60	29
341	Paper and products	20	123
342	Printing and publishing	40	74
351	Industrial chemicals	140	300
352	Other chemicals	120	168
353	Petroleum refineries	...	...
354	Misc. petroleum and coal products	...	...
355	Rubber products	120	126
356	Plastic products	20	40
361	Pottery, china, earthenware	40	34
362	Glass and products	20	114
369	Other non-metallic mineral products	180	185
371	Iron and steel	...	349
372	Non-ferrous metals	...	...
381	Fabricated metal products	120	83
382	Machinery, except electrical	60	129
383	Machinery electric	60	137
384	Transport equipment	80	209
385	Professional + scientific equipment	...	63
390	Other manufactured products	60	66

Source: Annex Table 13.

Annex Table 15

Regional Distribution of Medium and Large Scale Manufacturing Enterprises 1974.

Region	Establishments		Persons Engaged Employees		Average Size	Value Added		Gross Output		Population	Persons Engaged	
	Number	Percentage Share	(000)	Percentage Share	Empl. per Estab.	Rp. Bill.	Percentage Share	Rp. Bill.	Percentage Share	Mill.	Per (000) Pop.	No. of Estab. per Mill. Pop.
Sumatra	562	7.9	54.9	8.3	98	57.8	12.1	173.4	13.4	23.3	2.35	24
Java Total	6,034	85.1	572.2	86.4	94	395.2	82.9	842.2	65.1	82.7	6.92	73
Jakarta	878	12.4	27.9	13.3	100	92.9	19.5	288.0	22.3	5.6	15.70	157
Java, West	1,598	22.5	116.6	17.6	73	90.6	19.0	205.2	15.9	23.3	5.01	68
Java, Central	1,584	22.3	147.9	22.3	93	73.0	15.3	24.2	1.9	23.6	6.26	67
Yogjakarta	155	2.2	13.8	2.1	89	6.4	1.3	20.2	1.6	2.7	5.11	57
Java, East	1,814	25.7	206.0	31.1	113	132.3	27.7	304.7	23.5	27.5	7.49	66
Kalmantan	162	2.3	14.6	2.2	90	13.0	2.7	37.6	2.9	5.7	2.57	28
Sulawesi	167	2.4	9.3	1.3	50	9.2	1.9	25.2	1.9	9.4	0.88	16
Others	166	2.3	11.7	1.8	120	3.3	0.7	15.4	1.2	9.5	1.50	17
Total	7,091	100.0	661.7	100.0	93	478.5	100.0	1,093.8	100.0	130.6	5.07	54

Source: BPS 1974-1975 Industrial Census.

Annex Table 16

Number of establishment, persons engaged and value added by size and branch of industry, 1974/75

		Number of establishments					Persons engaged						Value added (Mill. Rp.)					
							Cottage		Small		M and L							
ISIC	Description	Cottage	Small	Medium	Large	M and L	Number	%	Number	%	Number	%	Cottage	%	Small	%	M and L	%
311,2	Food products	429,250	22,559	1,307	231	1,538	1,380,720	35.4	143,908	41.9	135,643	20.5	36,053.3	43.7	24.756.2	46.7	110,114.2	23.1
313	Beverages	1,670	416	52	8	60	5,495	0.1	3,512	1.0	4,704	0.7	205.6	0.2	540.5	1.0	14,435.1	3.0
314	Tobacco	3,364	1,300	550	219	769	14,962	0.4	3,774	1.1	128,041	19.4	1,040.9	1.3	340.9	0.5	102,174.4	21.4
321	Textiles	129,390	4,649	1,638	298	1,936	398,855	10.2	46,757	13.6	164,998	24.9	4,892.9	5.9	4,789.4	9.1	67,807.9	14.2
322	Wearing apparel	7,803	625	67	5	72	26,288	0.7	4,770	1.4	2,617	0.4	1,372.0	0.2	683.8	1.3	536.8	o.1
323	Leather and products	1,018	155	22	5	27	4,225	0.1	1.182	0.3	1.549	0.2	293.2	0.4	251.8	0.5	749.7	0.2
324	Footwear	1,469	363	27	4	31	5,756	0.2	2,666	0.8	5,082	0.8	575.3	0.7	528.9	1.0	3,118.2	0.7
331	Wood products	502,061	3,224	281	41	322	1,536,372	39.4	25,566	7.4	19,034	2.9	17,426.2	21.1	4,543.0	8.6	11,327.6	2.4
332	Furniture and fixtures	32,801	2,232	77	8	85	107,632	2.7	16,114	4.7	3,334	0.5	4,522.4	5.5	2,448.5	4.6	1,207.0	0.2
341	Paper and products	1,524	65	45	15	60	5,144	0.1	660	0.2	7,281	1.1	206.4	0.3	72.4	0.1	6,300.7	1.3
342	Printing, publishing	1,104	802	198	31	221	4,334	0.1	7,407	2.2	14,701	2.2	274.8	0.3	1,626.1	3.1	6,396.2	1.3
351	Industrial chemicals	-	120	51	15	66	-		1,084	0.3	4,509	0.7	-		453.7	0.9	4,734.3	1.0
352	Other chemical products	1,984	503	172	56	228	8,013	0.2	4,255	1.2	24,292	3.7	407.6	0.5	1,020.2	1.9	16,472.8	3.4
353	Petroleum refineries	-	-	-	-	-	-		-		-		-		-		-	
354	Petroleum, coal products	-	-	-	-	-	-		-		-		-		-		-	
355	Rubber products	1,541	454	329	139	468	6,275	0.2	4,141	1.2	45,745	6.9	291.8	0.4	1,277.8	2.4	38,165.7	8.0
356	Plastic products nec	1,792	302	112	25	137	6,658	0.2	2,910	0.8	9,256	1.4	440.7	0.5	587.8	1.1	3,121.6	0.6
361	Pottery, china, etc.	21,010	204	18	4	22	61,549	1.6	1,428	0.4	1,068	0.2	834.9	1.0	119.2	0.2	254.5	0.1
362	Glass and products	-	21	31	19	50	-		196	0.1	5,124	0.8	-		34.2	0.1	2,617.4	0.5
369	Non-metal products, nec	59,589	6,524	390	20	410	201,654	5.2	45,292	13.2	18,405	2.8	8,699.8	10.5	4,349.7	8.2	13,760.4	2.9
371	Iron and steel	-	2	6	3	9	-		21	0	933	0.1	-		-		829.6	0.2
372	Non-ferrous metals	-	4	3	6	9	-		29	0	1,127	0.2	-		7.9	0	3,169.1	0.7
381	Metal products	13,600	2,265	181	58	239	49,531	1.3	16,165	4.7	21,292	3.2	2,540.1	3.1	2,309.7	4.4	12,183.3	2.6
382	Machinery nec	-	162	52	16	68	-		1,419	0.4	7,311	1.1	-		301.0	0.6	9,236.3	1.9
383	Electrical machinery	-	63	38	28	66	-		553	0.2	12,175	1.8	-		308.7	0.6	16,058.5	3.4
384	Transport equipment	1,832	426	79	33	112	6,242	0.2	3,536	1.0	14,607	2.2	419.9	0.5	873.8	1.6	22,646.8	4.7
385	Professional goods	-	40	12	1	13	-		390	0.1	482	0.1	-		73.2	0.1	155.4	0
390	Other industries	21,709	708	52	13	65	65,282	1.7	5,499	1.6	8,394	1.3	2,066.6	2.5	720.1	1.4	10,550.9	2.2
300	Total industry	1,234,511	48,186	5,790	1,301	7,091	3,894,987	100.0	343,234	100.0	661,704	100.0	82,564.5	100.0	53,027.5	100.0	476,947.2	100.0

Source: BPS 1974/75 Industrial Census.

Annex Table 17

Number of Employees by Industry and by Location, Indonesia, 1974/75
(Thousands and Percentages)

ISIC	Industry	Java '000	Java %	Outer Islands '000	Outer Islands %	Indonesia '000	Indonesia %
31	Food, etc.	274.5	45	23.1	25	297.6	42
(311,2)	Food	(126.3)	(21)	(17.2)	(18)	(143.5)	(20)
(313)	Beverages	(4.6)	(1)	(0.2)	(..)	(4.8)	(1)
(314)	Tobacco	(143.6)	(24)	(5.7)	(6)	(149.3)	(21)
32	Textiles	172.7	28	7.7	8	180.3	26
(321)	Weaving	(164.3)	(27)	(7.4)	(8)	(171.7)	(24)
(322,3,4)	Wearing apparel	(8.4)	(1)	(0.3)	(..)	(8.6)	(1)
33	Wood Products	5.9	1	18.2	19	24.1	3
34	Paper, printing	19.1	3	3.1	3	22.5	3
35	Chemical products	58.8	10	29.4	31	88.2	13
(351,2,6)	Chemical products	(37.2)	(6)	(4.6)	(5)	(41.9)	(6)
(355)	Rubber	(21.6)	(4)	(24.8)	(26)	(46.3)	(7)
36	Non-metals	20.4	3	5.6	6	25.9	4
37	Basic metals	1.5	..	0.6	1	2.0	..
38	Fabricated metals	51.9	9	4.4	5	56.3	8
39	Other	3.4	1	1.5	2	4.9	1
	Total	608.3	100	93.6	100	701.9	100

Source: The World Bank: Selected issues of industrial development and trade strategy. Annex I, The Structure of the Manufacturing Sector, 15 July 1981, p. 39 based on BPS 1974/75 Industrial Census.

Annex Table 18 a

Large and medium enterprises, number of establishments, employment, value added and average size by ownership 1974/75

	Establishment		Employment		Value added	Output	Fixed capital formation	Average size
	Number	Percentage share	(000)	Percentage share	Percentage share	Percentage share	Percentage share	Number of employed persons per establishment
Government	481	6.8	126.8	19.3	25.0	19.3	13.7	264
Domestic private	6,230	87.9	450.2	68.7	47.0	56.8	39.5	72
Foreign	101	1.4	16.9	2.6	10.8	8.2	7.1	167
Government and domestic private	84	1.2	8.2	1.2	1.5	1.3	1.1	98
Government and foreign	14	0.2	4.5	0.7	2.1	1.7	1.3	320
Foreign and domestic private	177	2.4	47.8	7.3	13.3	12.5	36.5	270
Others	4	0.1	1.4	0.2	0.3	0.2	0.8	345
Total	7,091	100.0	655.8	100.0	100.0	100.0	100.0	93

Source: BPS 1974/75 Industrial Census, Jakarta, 1978.

Annex Table 18 b

Sectoral Value Added by Ownership, 1974/75 (Values in Bill. Rp.)

		Total			Foreign			Government			Private domestic		
		N	VA	%	N	VA	%VA	N	VA	%VA	N	VA	%VA
311,2	Food manufacturing	1,448	115.728	100	50	13.164	11.4	180	67.307	58.1	1,218	35.257	30.5
313	Beverages	59	14.438	100	4	8.424	58.4	3	0.142	1.0	52	5.872	40.7
314	Tobacco	747	105.132	100	46	39.540	37.6	37	1.181	1.1	664	64.411	61.3
321	Textiles	1,880	68.815	100	25	16.705	24.3	49	9.968	14.5	1,806	42.142	61.2
322	Wearing apparel	60	0.460	100	2	0.035	7.6	1	0.001	0.2	57	0.424	92.2
323	Leather substitutes	24	0.644	100	2	0.008	1.2	1	0.021	3.3	21	0.615	95.5
324	Footwear	29	2.966	100	1	1.577	53.2	-	-	-	28	1.389	46.8
331	Wood and wood products	302	10.780	100	14	1.425	13.2	20	0.652	6.0	268	8.703	80.8
332	Furniture (nonmetallic)	86	1.162	100	3	0.019	1.6	4	0.099	8.5	79	1.044	89.9
341	Paper and paper products	58	5.086	100	5	1.441	28.3	6	2.704	53.2	47	0.941	18.5
342	Printing and publishing	222	6.343	100	2	0.043	0.7	25	1.779	28.0	195	4.521	71.3
351	Basic chemicals	67	83.444	100	6	1.297	1.6	14	8.923	10.7	47	73.224	87.7
352	Other chemical products	218	16.969	100	27	6.813	40.1	15	1.511	8.9	176	8.645	50.9
355	Rubber	453	38.152	100	36	8.150	21.4	115	10.120	26.5	302	19.882	52.1
356	Plastic wares	129	3.057	100	7	0.327	10.7	-	-	-	122	2.730	89.3
361	Pottery, china and ware	19	0.245	100	-	-	-	1	0.006	2.4	18	0.239	97.6
362	Glass and glass products	51	4.990	100	4	3.520	70.5	2	0.484	9.7	45	0.986	19.8
363	Cement	206	12.071	100	1	0.897	7.4	17	9.461	78.4	188	1.713	14.2
364	Structural clay products	147	1.079	100	-	-	-	8	0.124	11.5	139	0.955	88.5
369	Other nonmetallic mineral products	12	0.295	100	-	-	-	1	0.098	33.2	11	0.197	66.8
371	Iron and steel	6	0.699	100	-	-	-	-	-	-	6	0.699	100.0
372	Nonferrous metal	9	3.169	100	5	2.551	80.5	-	-	-	4	0.618	19.5
381	Fabricated metal products	232	11.996	100	18	2.885	24.0	12	0.741	6.2	202	8.370	69.8
382	Machinery	66	8.383	100	5	1.204	14.4	11	5.234	62.4	50	1.945	23.2
383	Electrical machinery	60	15.722	100	9	9.235	58.7	3	0.113	0.7	48	6.374	40.6
384	Transport equipment	103	21.894	100	6	7.519	34.3	18	5.618	25.7	79	8.757	40.0
385	Measuring and optical equipment	13	0.153	100	-	-	-	-	-	-	13	0.153	100.0
390	Other manufacturing	52	1.477	100	4	0.841	56.9	4	0.194	13.2	44	0.442	29.9
	Total	6,758	555.350	100	282	127.620	23.0	547	126.480	22.8	5,929	301.240	54.2

Source: The World Bank: Selected issues of Industrial Development and Trade Strategy, Annex I, The Structure of the Manufacturing Sector, 15 July 1981, p. 43 based on BPS, 1974/75 Industrial Census.

Note: N = Number of firms
VA = Value added

Approved Domestic Investment Projects by Sector 1968-1981[a/]

(Millions of Rupiah)

Sector	1968-1977	1978	1979	1980	1981	Total	
						Value	Project
1. Agriculture	181,841	100,409	36,410	126,942	165,142	610,744	184
2. Forestry	247,862	58,459	81,802	397,620	362,132	1,147,875	474
3. Mining	50,045	18,347	32,882	37,092	13,462	151,828	25
4. Manufacturing	1,701,270	531,214	502,343	861,462	1,469,529	5,065,818	2,572
5. Construction	13,006	2,590	2,060	1,531	15,076	34,263	10
6. Hotel and tourism	90,645	11,571	12,418	1,032	52,620	168,286	127
7. Housing and offices	168,864	15,071	3,778	23,961	-12,489	199,185	48
8. Other services	139,044	24,160	16,936	53,923	71,712	305,775	160
Total	2,592,577	761,821	688,629	1,503,563	2,137,184	7,683,774	3,600

Source: Investment Coordinating Board.

[a/] Includes cancellations of projects formerly under the foreigh capital investment law.

Annex Table 20

Approved Foreign Investment Projects by Origin 1967-1981[a/]

(Millions of $)

	1967-1975	1976	1977	1978	1979	1980	1981	Total	
								Value	Project
1. Europe	469.3	45.1	50.8	53.0	94.3	233.9	134.2	1,080.6	158
-Belgium	35.7	5.2	4.0	0.8	8.0	40.7	45.8	140.2	16
-France	13.2	7.3	0.2	5.5	---	0.4	---	26.6	8
-Germany, Fed. Rep. of	175.0	9.8	6.6	1.4	4.0	23.4	13.9	234.1	24
-Netherlands	156.8	16.1	6.9	32.9	2.9	145.5	50.2	411.3	44
-United Kingdom	40.0	6.7	7.8	4.9	45.3	4.8	14.9	124.4	40
-Others	48.6	---	25.3	7.5	34.1	19.1	9.4	144.0	26
2. America	209.2	14.5	35.0	29.5	53.2	138.2	17.6	497.2	87
-Canada	2.4	---	2.4	4.6	---	---	---	9.4	2
-United States of America	193.2	14.5	29.5	21.9	53.0	136.9	9.7	458.7	79
-Others	13.6	---	3.1	3.0	0.2	1.3	7.9	29.1	6
3. Asia	2,628.4	330.7	279.4	225.1	1,191.3[b/]	179.0	763.5	5,597.4	423
-Hongkong	413.7	165.6	127.3	61.9	116.6	47.2	292.9	1,225.2	126
-Japan	2,040.2	91.8	104.3	162.2	1,037.4[b/]	73.5	234.7	3,744.1	207
-Malaysia	21.8	1.0	---	---	4.8	---	1.2	28.8	15
-Philippines	19.8	0.8	3.8	---	2.9	6.2	4.8	38.2	8
-Singapore	46.9	3.0	32.1	0.8	6.1	33.2	20.6	142.7	31
-Thailand	2.4	0.2	---	0.2	---	1.8	3.1	7.7	4
-Others	83.6	68.3	11.9	---	23.5	17.1	206.2	410.6	32
4. Africa	11.4	---	---	4.5	---	4.3	---	20.2	2
-Liberia	11.4	---	---	4.5	---	4.3	---	20.2	2
5. Australia	227.0	11.0	2.2	---	8.3	1.8	19.3	269.6	37
6. Group of country	1,287.0	37.5	279.7	90.6	491.8	349.5	244.7	2,780.8	80
Total	4,832.3	438.8	647.1	402.7	1,838.9[b/]	906.7	1,179.3	10,245.8	787

Source: Bank Indonesia, Report for the Financial Year 1981/82.

a/ After taking into account the cancellations and shifting of projects from foreign to domestic investment.

b/ Revised figures.

Annex Table 21

INDONESIA

PRODUCT MIX OF TRADED MANUFACTURED GOODS ,1970,1975,1980 a/

SITC	DESCRIPTION OF TRADE GOODS	EXPORTS 1970 PERCENT IN TOTAL MANUFACTURES	EXPORTS 1975 PERCENT IN TOTAL MANUFACTURES	EXPORTS 1980 PERCENT IN TOTAL MANUFACTURES	EXPORTS 1980 (1000 US $)	IMPORTS 1970 PERCENT IN TOTAL MANUFACTURES	IMPORTS 1975 PERCENT IN TOTAL MANUFACTURES	IMPORTS 1980 PERCENT IN TOTAL MANUFACTURES	IMPORTS 1980 (1000 US $)
01	MEAT AND MEAT PREPARATIONS	...	0.317	0.163	4779	...	0.048	0.060	5581
02	DAIRY PRODUCTS AND EGGS	...	0.041	0.021	603	...	0.605	0.857	80080
032	FISH N.E.S. AND FISH PREPARATIONS	0.557	0.001	0.017	502	...	0.044	0.030	2815
0422	RICE,GLAZED OR POLISHED NOT OTHERWISE WORKED	...	0.016	0.103	3043	...	7.221	7.391	690424
046	MEAL AND FLOUR OF WHEAT OR OF MESLIN	...	0.036	...	...	...	0.056	0.061	5714
047	MEAL AND FLOUR OF CEREALS,EXCEPT ABOVE	...	0.009	...	...	...	0.006	0.001	52
048	CEREALS PREPARAT. & STARCH OF FRUITS & VEGETAB.	...	0.068	0.136	4001	...	0.115	0.071	6644
052	DRIED FRUIT	0.026	0.001	0.002	67	...	0.008	0.017	1549
053	FRUIT,PRESERVED AND FRUIT PREPARATIONS	0.014	0.094	0.142	4183	...	0.035	0.051	4793
055	VEGETABLES,ROOTS & TUBERS,PRESERVED OR PREPARED	6.100	0.013	0.127	3735	...	0.087	0.161	15063
06	SUGAR,SUGAR PREPARATIONS AND HONEY	1.832	1.078	0.781	22976	...	0.759	1.749	163368
0713	COFFEE EXTRACTS,ESSENCES,CONCENTRATES & SIMILAR	0.001	...	0.079	2324	...	0.001	0.002	198
0722	COCOA POWDER,UNSWEETENED	...	0.039	0.615	18077	...	0.002	0.018	1661
0723	COCOA BUTTER AND COCOA PASTE	0.000	0.117	0.054	1584	...	0.001	0.000	9
073	CHOCOLATE AND RELATED FOOD PREPARATIONS	...	...	...	...	...	0.009	0.005	508
074	TEA AND MATE	13.607	5.845	3.832	112669	...	0.001	0.002	162
081	FEEDING-STUFF FOR ANIMALS	4.852	4.929	3.547	104312	...	0.012	0.410	38313
09	MISCELLANEOUS FOOD PREPARATIONS	0.222	0.129	0.086	2541	...	0.066	0.088	8174
11	BEVERAGES	0.066	0.019	0.012	359	...	0.075	0.109	10145
122	TOBACCO MANUFACTURES	0.625	1.514	0.049	1450	...	0.156	0.057	5297
2219	FLOUR AND MEAL OF OIL SEEDS,NUTS,KERNELS	...	0.004	...	...	...	0.006	0.002	219
231	CRUDE RUBBER,SYNTH. & RECLAIMED(EXCL.SITC 2311)	0.000	0.000	0.000	0	...	0.035	0.239	19558
243	WOOD,SHAPED OR SIMPLY WORKED	1.694	3.575	8.611	253202	...	0.003	0.000	22
251	PULP AND WASTE PAPER	0.000	0.000	...	...	...	0.112	0.672	62766
2626	WOOL SHODDY	...	...	...	...	...	0.000	0.000	6
2627	WOOL OR OTHER ANIMAL HAIR,CARDED OR COMBED	0.012	...	...	...	...	0.000	...	...
2628	WOOL TOPS	...	...	...	...	...	...	0.014	1311
2629	WASTE OF WOOL AND OTHER ANIMAL HAIR N.E.S.	...	...	...	...	...	...	0.000	2
263	COTTON	...	...	0.000	4	...	1.968	2.043	190886
266	SYNTHETIC AND REGENERATED(ARTIFICIAL) FIBRES	...	...	0.002	46	...	0.717	1.020	95252
267	WASTE MATERIALS FROM TEXTILE FABRICS(INCL.RAGS)	...	0.002	0.002	58	...	0.031	0.025	2381
332	PETROLEUM PRODUCTS	28.144	44.819	40.383	1187458	...	4.408	7.410	692224
4	ANIMAL AND VEGETABLE OILS AND FATS	27.176	18.144	9.686	284805	...	0.060	0.095	8848
411	ANIMAL OILS AND FATS	...	0.001	0.005	132	...	0.011	0.008	748
421	FIXED VEGETABLE OILS,SOFT(INCL.SITC 422)	27.047	18.142	9.518	279871	...	0.018	0.009	859
431	ANIMAL AND VEGETABLE OILS AND FATS PROCESSED	0.128	0.000	0.163	4801	...	0.031	0.078	7241

(Annex Table 21 continued)

INDONESIA

PRODUCT MIX OF TRADED MANUFACTURED GOODS ,1970,1975,1980 a/

SITC	DESCRIPTION OF TRADE GOODS	EXPORTS 1970 PERCENT IN TOTAL MANUFACTURES	EXPORTS 1975 PERCENT IN TOTAL MANUFACTURES	EXPORTS 1980 PERCENT IN TOTAL MANUFACTURES	EXPORTS 1980 (1000 US $)	IMPORTS 1970 PERCENT IN TOTAL MANUFACTURES	IMPORTS 1975 PERCENT IN TOTAL MANUFACTURES	IMPORTS 1980 PERCENT IN TOTAL MANUFACTURES	IMPORTS 1980 (1000 US $)
5	CHEMICALS	4.018	2.754	2.850	83805	...	17.929	13.435	1255020
51	CHEMICALS ELEMENTS AND COMPOUNDS	...	0.214	0.419	12322	...	2.655	5.523	515953
52	TAR AND CHEMICALS FROM COAL;PETROLEUM,NAT. GAS	...	0.000	0.057	1679	...	0.012	0.009	837
53	DYEING;TANNING AND COLOURING MATERIALS	0.215	0.015	0.052	1540	...	1.267	1.043	97439
54	MEDICINAL AND PHARMACEUTICAL PRODUCTS	2.029	1.409	0.397	11668	...	0.725	0.855	79871
55	ESSENTIAL OILS AND PERFUME MATERIALS	1.570	1.090	0.734	21571	...	0.339	0.436	40740
56	FERTILIZERS,MANUFACTURED	0.001	0.020	1.187	34892	...	8.908	0.770	71915
57	EXPLOSIVES AND PYROTECHNIC PRODUCTS	...	...	...	...	...	0.082	0.098	9120
58	PLASTIC MATERIALS,REGENERATED CELLUL. & RESINS	...	0.001	0.001	29	...	2.020	3.269	305400
59	CHEMICAL MATERIALS AND PRODUCTS N.E.S.	0.204	0.005	0.004	105	...	1.921	1.432	133744
6	MANUFACTURED GOODS CLASSIFIED BY MATERIAL	8.166	10.433	20.905	614700	...	23.850	21.981	2053326
61	LEATHER MANUFACTURED N.E.S. & DRESSED FUR SKINS	0.298	0.066	0.235	6909	...	0.012	0.014	1313
62	RUBBER MANUFACTURES N.E.S.	0.014	0.021	0.015	432	...	0.657	0.606	56614
63	WOOD AND CORK MANUFACTURES(EXCL.FURNITURE)	0.084	0.123	2.500	73519	...	0.078	0.036	3378
64	PAPER,PAPER BOARD AND MANUFACTURES THEREOF	0.000	0.039	0.161	4734	...	1.339	1.840	171886
65	TEXTILE YARN,FABRICS,MADE-UP ARTICLES	1.365	0.222	1.559	45828	...	3.426	2.323	216975
66	NON-METALLIC MINERAL MANUFACTURES;N.E.S.	0.005	0.039	1.085	31901	...	2.203	1.353	126362
67	IRON AND STEEL	...	0.041	0.639	18776	...	10.837	10.349	966700
68	NON-FERROUS METALS	6.036	9.518	14.524	427072	...	1.472	2.077	194025
69	MANUFACTURES OF METAL,N.E.S.	0.364	0.365	0.188	5528	...	3.827	3.384	316075
7	MACHINERY AND TRANSPORT EQUIPMENT	2.664	3.635	3.706	108962	...	39.357	38.900	3633821
71	MACHINERY,OTHER THAN ELECTRIC	2.664	1.674	0.139	4095	...	18.298	19.858	1855004
72	ELECTRICAL MACHINERY,APPARATUS AND APPLIANCES	...	1.468	3.304	97143	...	8.785	8.014	748641
73	TRANSPORT EQUIPMENT	...	0.493	0.263	7724	...	12.275	11.028	1030176
8	MISCELLANEOUS MANUFACTURED ARTICLES	0.223	2.374	4.089	120242	...	2.213	3.053	285192
81	SANITARY,PLUMBING,HEATING & LIGHTNING FIXTURES	...	0.015	0.009	250	...	0.206	0.139	13007
82	FURNITURE	...	0.025	0.106	3111	...	0.125	0.092	8581
83	TRAVEL GOODS,HANDBAGS AND SIMILAR ARTICLES	...	0.000	0.019	550	...	0.021	0.016	1517
84	CLOTHING	0.001	0.276	3.342	98274	...	0.107	0.033	3095
85	FOOTWEAR	0.009	0.025	0.049	1450	...	0.044	0.025	2376
86	PROFESSIONAL,SCIENT. & CONTROLL. INSTRUMENTS	...	0.856	0.128	3766	...	0.948	1.416	132299
89	MISCELLANEOUS MANUFACTURED ARTICLES,N.E.S.	0.213	1.177	0.437	12841	...	0.764	1.331	124317

	EXPORTS 1970	EXPORTS 1975	EXPORTS 1980	IMPORTS 1970	IMPORTS 1975	IMPORTS 1980
TOTAL MANUFACTURES	134535	881867	2940488	...	4504732	9341385
TOTAL: SITC 5-8 LESS 68 Δ/	12155	85350	500636	...	3688363	7033334
TOTAL TRADED GOODS: SITC 0-9	1055090	7130200	21908890	...	4769717	10834394

NOTE:DATA AND SITC DESCRIPTIONS REFER TO SITC REVISION 1

a/ THIS TABLE IS BASED ON THE DEFINITION OF TRADE IN MANUFACTURES COVERING A LIST OF 148 SPECIFICALLY IDENTIFIED SITC 3-DIGIT OR 4-DIGIT CODES COMPRISING A WIDE RANGE OF PROCESSING STAGES OF MANUFACTURED GOODS.

Δ/ DEFINITION OF TRADE IN MANUFACTURES SITC 5-8 LESS 68 IS ONE OF THE MOST OFTEN FOUND. IT COVERS ONLY ITEMS RECOGNIZED AS EXCLUSIVELY MANUFACTURED GOODS,I.E. WITH A HIGH LEVEL OF MANUFACTURING CONTENT.

SOURCE: UNIDO DATA BASE;INFORMATION SUPPLIED BY THE UNITED NATIONS STATISTICAL OFFICE.

INDONESIA

INDICATORS OF EXPORT PERFORMANCE BY PRODUCT GROUP, 1970-1972 AND 1976-1978 (PERCENTAGE)

EXPORT (SITC)	External effects		Internal effects		
	Demand in world market	Change in market composition	Change in product composition	Competitiveness	Compound rate of growth 1970-1978
Total manufactures (5 to 8)	21.0	0.7	0.5	77.7	82.7
Chemicals (5)	42.4	-1.2	-9.5	68.3	33.8
Manufactured goods classified chiefly by material (6)	25.3	1.6	3.4	69.7	53.4
Machinery and transport equipment (7)	...	...	...	...	...
Miscellaneous manufactured articles (8)	4.7	-1.0	0.9	95.4	75.8
Selected product groups:					
Leather,leather manufactures,n.e.s. and dressed fur skins (61)	33.8	7.0	-0.3	59.8	35.8
Rubber manufactures,n.e.s. (62)	28.0	-6.0	0.7	77.4	41.9
Wood and cork manufactures,excluding furniture (63)	5.3	4.6	1.8	88.2	95.8
Paper,paperboard and manufactures thereof (64)	...	...	...	...	...
Textile yarn,fabrics,made-up articles and related products (65)	162.6	-70.4	49.1	-41.3	15.9
Non-metallic mineral manufactures,n.e.s. (66)	5.8	-4.0	1.4	95.7	152.9
Iron and steel (67)	...	...	...	...	...
Non-ferrous metals (68)	17.3	2.7	10.4	69.7	55.9
Manufactures of metal,n.e.s. (69)	-37.3	-2.0	7.3	132.0	19.9
Machinery,other than electric (71)	...	...	...	...	...
Electrical machinery,apparatus and appliances (72)	...	...	...	...	...
Transport equipment (73)	...	...	...	...	...
Clothing and footwear (84,85)	...	...	...	...	...

Source: UNIDO Handbook of Industrial Statistics, ID/284; E.82.II.B.2, 1982.

Annex Table 23

Indonesia: export-performance indicators

SUMMARY STATISTICS

YEAR	POPULATION (THOUSANDS)	PER CAPITA GDP($) (IN 1975 PRICES)	MVA/GDP (PER CENT)	SHARE IN WORLD EXPORTS OF MANUFACTURES (PER CENT)	SHARE OF MANUFACTURES IN TOTAL MERCHANDISE EXPORTS (PER CENT)
1970	119 467	173	6.7	0.062	12.7
1977	141 776	250	9.1	0.180	12.8

SITC CODE	NOTES	COMMODITY DESCRIPTION	SHARE IN TOTAL EXPORTS OF MANUFACTURES (PER CENT)		NET EXPORTS AS PERCENTAGE OF TOTAL TRADE		EXPORT-PERFORMANCE RATIO	
			1971	1976	1971	1976	1971	1976
032		FISH PREPARATIONS	0.785	0.023	23.63	-96.07	3.10	0.11
052		DRIED FRUIT	0.003	0.001	-93.45	-98.52	0.04	0.01
053		FRUIT,PRESERVED AND FRUIT PREPARATIONS	0.024	0.176	-83.67	-53.36	0.07	0.59
055		VEGETABLES,ROOTS & TUBERS,PRES. OR PREP.	8.441	0.436	92.63	-41.81	31.80	1.43
061,062	a/	SUGAR,SUGAR PREPARATIONS AND HONEY	2.303	0.787	-63.43	-88.89	3.48	0.95
074		TEA AND MATE	16.035	6.978	99.93	99.63	73.12	53.28
081		FEEDING-STUFF FOR ANIMALS	7.075	8.644	98.55	96.63	8.70	9.23
091		MARGARINE AND SHORTENING	0.047	0.000	39.46	-33.95	0.62	0.06
099		FOOD PREPARATIONS,N.E.S.	0.068	0.129	-91.18	-63.61	0.45	0.58
112		ALCOHOLIC BEVERAGES	0.043	0.020	-87.08	-93.27	0.04	0.62
122		TOBACCO MANUFACTURES	1.375	0.124	90.41	-79.47	4.37	0.45
243		WOOD,SHAPED OR SIMPLY WORKED	1.048	6.481	97.72	99.23	1.03	6.48
251		PULP AND WASTE PAPER	0.000	0.016	-99.92	-96.65	0.00	0.01
332		PETROLEUM PRODUCTS	20.420	44.649	23.09	-4.12	7.25	10.85
421,422		FIXED VEGETABLE OILS AND FATS	25.257	17.880	95.22	98.05	36.97	29.09
431		ANIMAL & VEGETABLE OILS & FATS PROCESSED	0.100	0.001	-36.71	-98.95	0.05	0.01
532		DYEING & TANNING EXTRACTS AND MATERIALS	0.068	0.017	23.71	-84.28	2.22	0.65
541		MEDICINAL AND PHARMACEUTICAL PRODUCTS	0.766	1.208	-87.50	-59.93	0.59	0.98
551		ESSENTIAL OILS,PERFUME & FLAVOUR MATLS.	2.200	1.528	-2.36	21.68	13.10	9.57
553		PERFUMERY & COSMETICS EXCEPT SOAPS	0.006	0.003	-96.62	-99.30	0.04	0.01
599		CHEMICAL MATERIALS & PRODUCTS N.E.S.	0.064	0.032	-98.96	-99.97	0.05	0.00
611		LEATHER	0.657	0.264	74.31	92.33	0.17	0.75
612		MANUFACTURES OF LEATHER OR RECONSTITUTES	0.034	0.025	-22.29	-67.82	0.53	0.37
629		ARTICLES OF RUBBER N.E.S.	0.018	0.015	-59.29	-99.02	0.02	0.02
632		WOOD MANUFACTURES N.E.S.	0.190	0.118	-59.82	-41.03	0.66	0.45
642		ARTICLES OF PULP,PAPER OR PAPERBOARD	0.000	0.000	-99.96	-99.93	0.00	0.00
652		COTTON FABRICS,WOVEN	0.626	0.026	-77.91	-94.11	0.87	0.04
653		TEXTILE FABRICS,WOVEN OTHER THAN COTTON	0.064	0.010	-99.12	-99.61	0.03	0.01
654		TULLE,LACE,EMBROIDERY,RIBBONS ETC.	0.000	0.004	-99.93	-99.05	0.00	0.03
655		SPECIAL TEXTILE FABRICS & REL. PRODUCTS	0.134	0.016	-82.18	-98.15	0.27	0.04
656		MADE-UP ARTICLES,CHIEFLY OF TEXTILES	0.000	0.041	-99.99	-91.33	0.00	0.14
657		FLOOR COVERING,TAPESTRIES ETC.	0.149	0.163	-4.12	-23.58	0.41	0.43
682		COPPER	0.038	0.000	-99.36	-99.99	0.01	0.00
687		TIN	11.259	7.709	95.13	99.30	47.91	40.93
698		MANUFACTURE OF METALS N.E.S.	1.115	0.071	-62.73	-95.82	1.29	0.08
735		SHIPS AND BOATS	0.017	0.018	-99.62	-99.47	0.01	0.01
841		CLOTHING EXCEPT FUR CLOTHING	0.001	0.565	-99.90	-29.60	0.00	0.23
851		FOOTWEAR	0.046	0.008	-68.11	-97.18	0.05	0.01
892		PRINTED MATTER	0.011	1.636	-98.84	36.78	0.01	2.31
897		JEWELLERY,GOLD AND SILVER WARES	0.121	0.004	-41.51	-88.06	0.49	0.01
899		MANUFACTURED ARTICLES,N.E.S.	0.002	0.205	-99.92	-75.57	0.00	0.49

Source: UNIDO Changing Patterns of Trade in World Industry, An Empirical Study on Revealed Comparative Advantage, 1982.

a/ SITC 061 only.

Annex Table 24

Indonesia: Import[a/] and Domestic Production of Manufactured Goods by End Use 1967-1980
(Billion Rupiahs, Current Prices and Percentage Shares)

	1967				1971				1975				1980			
	Imports		Prod.*		Imports		Prod.		Imports		Prod.		Imports		Prod.	
	Bill. Rp.	(%)	Bill. Rp.	(%)	Bill. Rp.	(%)	Bill. Rp.	(%)	Bill. Rp.	(%)	Bill. Rp.	(%)	Bill. Rp.	(%)	Bill. Rp.	(%)
Mainly Consumer Goods[b/]	13.72	(9.6)	-	-	37.87	(9.6)	311.17	(81.7)	215.74	(11.5)	1,055.80	(70.6)	831.80	(14.2)	3,422.50	(52.1)
Mainly Intermed. Goods[c/]	87.42	(61.2)	-	-	190.82	(48.4)	47.90	(12.6)	918.00	(49.1)	262.50	(17.6)	2,745.35	(46.9)	1,990.90	(30.3)
Mainly Capital Goods[d/][e/]	41.60	(29.2)	-	-	165.81	(42.0)	21.60	(5.7)	735.76	(39.4)	177.00	(11.8)	2,277.50	(38.9)	1,159.40	(17.6)
Total Manufactured Goods	142.74	(100.0)	-	-	394.50	(100.0)	380.67	(100.0)	1,869.50	(100.0)	1,495.30	(100.0)	5,845.65	(100.0)	6,572.80	(100.0)

Source: UNIDO Data Base.

* Not Available.

a/ Exchange rates used:

1967	235.00
1971	378.00
1975	415.00
1980	626.75

b/ ISIC 3110, 3130, 3140, 3210, 3220, 3240, 3320, 3420, 3610, 3900.
c/ ISIC 3230, 3310, 3410, 3510, 3520, 3530, 3540, 3550, 3560, 3620, 3690, 3710, 3720.
d/ ISIC 3810, 3820, 3830, 3840, 3850.
e/ Includes also some consumer durables.

Annex Table 25

INDONESIA

ORIGIN OF IMPORTS OF MANUFACTURES BY BRANCHES; 1980 a/

SITC	DESCRIPTION OF TRADE GOODS	WORLD TOTAL (1000 US$)	DEVELOPING COUNTRIES (PERCENT)	DEVELOPED MARKET ECONOMIES TOTAL (PERCENT)	USA (PERCENT)	EEC (PERCENT)	JAPAN (PERCENT)	CENTRALLY PLANNED DEVELOPED COUNTRIES (PERCENT)
01	MEAT AND MEAT PREPARATIONS	5581	48.70	51.03	16.19	4.27	1.09	0.04
02	DAIRY PRODUCTS AND EGGS	80080	0.93	97.46	3.50	16.10	0.38	1.61
032	FISH N.E.S. AND FISH PREPARATIONS	2815	15.29	84.69	6.18	0.36	55.14	0.00
0422	RICE,GLAZED OR POLISHED NOT OTHERWISE WORKED	690424	62.03	25.84	12.27	0.00	11.27	0.00
046	MEAL AND FLOUR OF WHEAT OR OF MESLIN	5714	0.12	99.88	99.85	0.00	0.00	0.00
047	MEAL AND FLOUR OF CEREALS,EXCEPT ABOVE	52	54.83	45.17	15.15	25.47	0.00	0.00
048	CEREALS PREPARAT. & STARCH OF FRUITS & VEGETAB.	6644	19.69	80.09	5.54	9.87	0.98	0.01
052	DRIED FRUIT	1549	85.70	14.26	7.74	0.01	0.00	0.00
053	FRUIT,PRESERVED AND FRUIT PREPARATIONS	4793	30.51	47.48	37.10	3.58	2.25	0.08
055	VEGETABLES,ROOTS & TUBERS,PRESERVED OR PREPARED	15063	47.57	4.47	2.50	0.51	0.56	0.00
06	SUGAR,SUGAR PREPARATIONS AND HONEY	163368	88.14	4.84	0.18	1.24	3.15	0.01
0713	COFFEE EXTRACTS,ESSENCES,CONCENTRATES & SIMILAR	198	8.97	91.03	58.63	4.66	27.59	0.00
0722	COCOA POWDER,UNSWEETENED	1661	61.64	38.36	0.68	37.56	0.00	0.00
0723	COCOA BUTTER AND COCOA PASTE	9	4.88	95.12	22.64	2.40	34.36	0.00
073	CHOCOLATE AND RELATED FOOD PREPARATIONS	508	16.34	83.23	24.80	43.10	3.28	0.43
074	TEA AND MATE	162	82.06	17.94	9.31	5.46	2.45	0.00
081	FEEDING-STUFF FOR ANIMALS	38313	93.12	6.78	4.65	0.74	1.08	0.00
09	MISCELLANEOUS FOOD PREPARATIONS	8174	19.71	79.96	26.85	31.73	5.92	0.05
11	BEVERAGES	10145	31.67	68.07	7.65	54.80	1.40	0.14
122	TOBACCO MANUFACTURES	5297	0.90	99.10	21.03	74.47	1.70	0.00
2219	FLOUR AND MEAL OF OIL SEEDS;NUTS;KERNELS	219	16.77	33.96	0.92	32.41	0.50	0.00
231	CRUDE RUBBER,SYNTH. & RECLAIMED(EXCL.SITC 2311)	19558	1.46	92.24	11.51	6.90	73.74	0.25
243	WOOD,SHAPED OR SIMPLY WORKED	22	99.71	0.29	0.29	0.00	0.00	0.00
251	PULP AND WASTE PAPER	62766	11.02	63.08	19.04	1.36	3.81	0.07
2626	WOOL SHUDDY	6	0.00	100.00	0.00	65.45	0.00	0.00
2628	WOOL TOPS	1311	0.00	100.00	0.00	0.00	0.00	0.00
2629	WASTE OF WOOL AND OTHER ANIMAL HAIR N.E.S.	2	100.00	0.00	0.00	0.00	0.00	0.00
263	COTTON	190886	17.22	73.95	69.65	0.54	0.12	0.04
266	SYNTHETIC AND REGENERATED(ARTIFICIAL) FIBRES	95252	12.48	75.37	10.52	4.66	50.66	0.06
267	WASTE MATERIALS FROM TEXTILE FABRICS(INCL.RAGS)	2381	13.49	84.97	45.31	13.65	19.52	0.19
332	PETROLEUM PRODUCTS	692224	92.30	7.35	3.88	1.30	1.50	0.00
4	ANIMAL AND VEGETABLE OILS AND FATS	8848	13.83	84.76	4.41	30.35	32.82	0.00
411	ANIMAL OILS AND FATS	748	17.58	81.61	12.45	32.65	1.36	0.00
421	FIXED VEGETABLE OILS,SOFT(INCL.SITC 422)	859	35.17	64.80	28.44	23.39	2.59	0.00
431	ANIMAL AND VEGETABLE OILS AND FATS PROCESSED	7241	10.91	87.46	0.73	30.94	39.66	0.00

(Annex Table 25 continued)

INDONESIA

ORIGIN OF IMPORTS OF MANUFACTURES BY BRANCHES, 1980 a/

SITC	DESCRIPTION OF TRADE GOODS	WORLD TOTAL (1000 US$)	DEVELOPING COUNTRIES (PERCENT)	DEVELOPED MARKET ECONOMIES TOTAL (PERCENT)	USA (PERCENT)	EEC (PERCENT)	JAPAN (PERCENT)	CENTRALLY PLANNED DEVELOPED COUNTRIES (PERCENT)
5	CHEMICALS	1255020	12.68	82.36	21.65	25.19	28.41	1.28
51	CHEMICALS ELEMENTS AND COMPOUNDS	515953	14.26	80.98	17.90	22.56	34.55	1.48
52	TAR AND CHEMICALS FROM COAL,PETROLEUM,NAT. GAS	837	26.42	72.04	18.82	39.62	12.25	0.00
53	DYEING,TANNING AND COLOURING MATERIALS	97439	10.45	85.67	2.72	39.31	25.93	2.06
54	MEDICINAL AND PHARMACEUTICAL PRODUCTS	79871	12.15	86.08	21.48	43.22	9.17	1.03
55	ESSENTIAL OILS AND PERFUME MATERIALS	40740	15.30	81.40	13.59	34.90	26.52	0.10
56	FERTILIZERS,MANUFACTURED	71915	24.28	71.39	12.40	40.85	7.61	3.16
57	EXPLOSIVES AND PYROTECHNIC PRODUCTS	9120	1.08	91.89	8.32	59.28	22.01	0.00
58	PLASTIC MATERIALS,REGENERATED CELLUL. & RESINS	305400	8.27	84.34	33.56	13.39	33.38	1.01
59	CHEMICAL MATERIALS AND PRODUCTS N.E.S.	133744	12.18	84.11	31.22	27.41	18.99	0.13
6	MANUFACTURED GOODS CLASSIFIED BY MATERIAL	2053326	18.45	76.11	7.59	10.22	47.16	1.02
61	LEATHER MANUFACTURES N.E.S. & DRESSED FUR SKINS	1313	19.24	54.22	9.70	21.67	18.91	1.35
62	RUBBER MANUFACTURES N.E.S.	56614	10.59	76.26	14.74	20.27	36.64	0.01
63	WOOD AND CORK MANUFACTURES(EXCL.FURNITURE)	3378	37.50	58.62	26.58	4.54	20.40	1.09
64	PAPER,PAPER BOARD AND MANUFACTURES THEREOF	171866	12.42	85.13	10.29	19.72	15.63	0.50
65	TEXTILE YARN,FABRICS,MADE-UP ARTICLES	216975	37.43	44.63	4.75	2.38	36.67	0.02
66	NON-METALLIC MINERAL MANUFACTURES,N.E.S.	126362	20.62	72.35	6.91	19.84	34.89	2.10
67	IRON AND STEEL	966700	17.45	78.97	6.64	5.59	60.82	1.01
68	NON-FERROUS METALS	194025	14.09	81.09	4.05	8.35	31.11	1.72
69	MANUFACTURES OF METAL,N.E.S.	316075	13.31	82.78	11.43	20.10	46.76	1.34
7	MACHINERY AND TRANSPORT EQUIPMENT	3633821	5.45	90.65	13.51	21.95	49.63	0.38
71	MACHINERY,OTHER THAN ELECTRIC	1855004	6.74	89.29	18.38	21.24	41.24	0.34
72	ELECTRICAL MACHINERY,APPARATUS AND APPLIANCES	748641	5.42	88.29	11.56	29.99	43.12	0.40
73	TRANSPORT EQUIPMENT	1030176	3.14	94.82	6.16	17.38	69.47	0.42
8	MISCELLANEOUS MANUFACTURED ARTICLES	285192	13.76	77.31	17.69	19.39	36.56	0.20
81	SANITARY,PLUMBING,HEATING & LIGHTING FIXTURES	13007	23.33	69.63	10.40	34.44	21.59	0.36
82	FURNITURE	8581	44.24	39.67	9.54	13.08	13.20	0.27
83	TRAVEL GOODS,HANDBAGS AND SIMILAR ARTICLES	1517	29.37	10.28	3.10	2.70	3.64	0.00
84	CLOTHING	3095	26.95	61.47	24.49	5.23	15.56	0.12
85	FOOTWEAR	2376	19.18	65.40	16.76	19.04	12.58	0.42
86	PROFESSIONAL,SCIENT. & CONTROLL. INSTRUMENTS	132299	6.73	89.58	23.30	24.84	37.30	0.22
89	MISCELLANEOUS MANUFACTURED ARTICLES,N.E.S.	124317	17.51	69.39	13.06	13.02	40.34	0.17
	TOTAL MANUFACTURES	9341305	22.45	72.26	13.46	15.28	36.37	0.73
	TOTAL: SITC 5-8 LESS 68 b/	7033334	10.63	84.65	13.64	19.37	45.10	0.68
	TOTAL TRADED GOODS: SITC 6-9	10334394	30.25	65.02	13.01	13.33	31.50	0.63

NOTE:DATA AND SITC DESCRIPTIONS REFER TO SITC REVISION 1

a/ THIS TABLE IS BASED ON THE DEFINITION OF TRADE IN MANUFACTURES COVERING A LIST OF 148 SPECIFICALLY IDENTIFIED SITC 3-DIGIT OR 4-DIGIT CODES COMPRISING A WIDE RANGE OF PROCESSING STAGES OF MANUFACTURED GOODS.

b/ DEFINITION OF TRADE IN MANUFACTURES SITC 5-8 LESS 68 IS ONE OF THE MOST OFTEN FOUND. IT COVERS ONLY ITEMS RECOGNIZED AS EXCLUSIVELY MANUFACTURED GOODS,I.E. WITH A HIGH LEVEL OF MANUFACTURING CONTENT.

SOURCE: UNIDO DATA BASE;INFORMATION SUPPLIED BY THE UNITED NATIONS STATISTICAL OFFICE.

Annex Table 26

INDONESIA

DESTINATION OF EXPORTS OF MANUFACTURES BY BRANCHES, 1980 a/

SITC	DESCRIPTION OF TRADE GOODS	WORLD TOTAL (1000 US$)	DEVELOPING COUNTRIES (PERCENT)	DEVELOPED MARKET ECONOMIES				CENTRALLY PLANNED DEVELOPED COUNTRIES (PERCENT)
				TOTAL (PERCENT)	USA (PERCENT)	EEC (PERCENT)	JAPAN (PERCENT)	
01	MEAT AND MEAT PREPARATIONS	4779	4.46	95.54	0.00	95.54	0.00	0.00
02	DAIRY PRODUCTS AND EGGS	603	99.14	0.86	0.01	0.69	0.00	0.00
032	FISH N.E.S. AND FISH PREPARATIONS	502	1.39	98.61	0.00	20.51	78.10	0.00
0422	RICE,GLAZED OR POLISHED NOT OTHERWISE WORKED	3043	99.91	0.09	0.00	0.09	0.00	0.00
048	CEREALS PREPARAT. & STARCH OF FRUITS & VEGETAB.	4001	12.41	87.59	0.13	39.12	47.99	0.00
052	DRIED FRUIT	67	95.02	4.98	0.00	4.98	0.00	0.00
053	FRUIT,PRESERVED AND FRUIT PREPARATIONS	4183	73.85	26.15	0.01	23.30	1.30	0.00
055	VEGETABLES,ROOTS & TUBERS,PRESERVED OR PREPARED	3735	12.50	65.01	0.00	0.79	65.03	0.00
06	SUGAR,SUGAR PREPARATIONS AND HONEY	22976	42.78	44.53	0.00	0.00	44.53	0.00
0713	COFFEE EXTRACTS,ESSENCES,CONCENTRATES & SIMILAR	2324	15.85	84.15	0.00	0.00	84.15	0.00
0722	COCOA POWDER,UNSWEETENED	18077	99.74	0.26	0.00	0.00	0.26	0.00
0723	COCOA BUTTER AND COCOA PASTE	1584	100.00	0.00	0.00	0.00	0.00	0.00
074	TEA AND MATE	112669	45.72	54.28	18.08	17.29	0.24	0.00
081	FEEDING-STUFF FOR ANIMALS	104312	18.44	79.66	0.00	72.14	6.58	1.39
09	MISCELLANEOUS FOOD PREPARATIONS	2541	39.22	58.76	11.31	40.98	0.01	0.00
11	BEVERAGES	359	7.43	85.35	28.98	50.76	5.61	0.00
122	TOBACCO MANUFACTURES	1450	62.39	37.61	30.06	0.18	0.00	0.00
231	CRUDE RUBBER,SYNTH. & RECLAIMED(EXCL.SITC 2311)	0	0.00	0.00	0.00	0.00	0.00	0.00
243	WOOD,SHAPED OR SIMPLY WORKED	253202	36.98	56.94	1.20	42.71	10.17	0.09
263	COTTON	4	0.00	100.00	0.00	0.00	100.00	0.00
266	SYNTHETIC AND REGENERATED(ARTIFICIAL) FIBRES	46	0.00	100.00	0.00	0.00	100.00	0.00
267	WASTE MATERIALS FROM TEXTILE FABRICS(INCL.RAGS)	58	3.35	96.65	0.00	0.00	96.65	0.00
332	PETROLEUM PRODUCTS	1187458	4.33	95.30	12.35	1.49	80.89	0.00
4	ANIMAL AND VEGETABLE OILS AND FATS	284805	33.20	66.32	7.08	54.71	2.62	0.00
411	ANIMAL OILS AND FATS	132	48.88	51.12	0.00	0.06	51.06	0.00
421	FIXED VEGETABLE OILS,SOFT(INCL.SITC 422)	279871	32.63	67.37	7.20	55.65	2.57	0.00
431	ANIMAL AND VEGETABLE OILS AND FATS PROCESSED	4801	66.18	5.70	0.00	1.59	4.11	0.00

(Annex Table 26 continued)

INDONESIA

TABLE 9J. DESTINATION OF EXPORTS OF MANUFACTURES BY BRANCHES, 1980 a/

SITC	DESCRIPTION OF TRADE GOODS	WORLD TOTAL (1000 US$)	DEVELOPING COUNTRIES (PERCENT)	DEVELOPED MARKET ECONOMIES TOTAL (PERCENT)	USA (PERCENT)	EEC (PERCENT)	JAPAN (PERCENT)	CENTRALLY PLANNED DEVELOPED COUNTRIES (PERCENT)
5	CHEMICALS	63805	57.34	42.03	14.55	15.67	8.81	0.00
51	CHEMICALS ELEMENTS AND COMPOUNDS	12322	27.16	70.83	2.70	9.37	55.73	0.00
52	TAR AND CHEMICALS FROM COAL,PETROLEUM,NAT. GAS	1679	100.00	0.00	0.00	0.00	0.00	0.00
53	DYEING,TANNING AND COLOURING MATERIALS	1540	58.76	41.24	0.03	35.82	2.94	0.00
54	MEDICINAL AND PHARMACEUTICAL PRODUCTS	11668	47.83	52.17	14.80	32.29	0.00	0.00
55	ESSENTIAL OILS AND PERFUME MATERIALS	21571	9.91	89.00	46.93	35.52	2.06	0.00
56	FERTILIZERS,MANUFACTURED	34892	98.43	1.57	0.00	0.00	0.00	0.00
58	PLASTIC MATERIALS,REGENERATED CELLUL. & RESINS	29	14.62	0.08	0.00	0.00	0.08	0.00
59	CHEMICAL MATERIALS AND PRODUCTS N.E.S.	105	54.34	29.04	0.00	0.03	29.01	0.00
6	MANUFACTURED GOODS CLASSIFIED BY MATERIAL	614700	42.86	54.36	1.68	33.83	18.09	1.76
61	LEATHER MANUFACTURED N.E.S. & DRESSED FUR SKINS	6909	23.96	75.05	2.44	7.24	64.09	0.10
62	RUBBER MANUFACTURES N.E.S.	432	53.04	46.96	0.00	0.00	0.05	0.00
63	WOOD AND CORK MANUFACTURES(EXCL.FURNITURE)	73519	59.66	38.25	13.03	11.60	13.29	0.04
64	PAPER,PAPER BOARD AND MANUFACTURES THEREOF	4734	95.61	4.39	0.00	0.06	0.00	0.00
65	TEXTILE YARN,FABRICS,MADE-UP ARTICLES	45828	62.53	36.30	2.06	11.24	17.36	0.02
66	NON-METALLIC MINERAL MANUFACTURES,N.E.S.	31901	88.01	11.99	0.00	0.00	10.40	0.00
67	IRON AND STEEL	18776	70.09	21.48	0.00	0.00	21.48	0.00
68	NON-FERROUS METALS	427072	32.88	64.60	0.11	45.36	19.13	2.52
69	MANUFACTURES OF METAL,N.E.S.	5526	51.55	0.64	0.02	0.46	0.15	0.00
7	MACHINERY AND TRANSPORT EQUIPMENT	188962	95.32	4.61	0.09	3.47	0.86	0.04
71	MACHINERY,OTHER THAN ELECTRIC	4095	94.71	4.23	0.24	1.15	2.19	1.06
72	ELECTRICAL MACHINERY,APPARATUS AND APPLIANCES	97143	98.61	1.39	0.08	0.53	0.76	0.00
73	TRANSPORT EQUIPMENT	7724	54.32	45.26	0.20	41.74	1.40	0.00
8	MISCELLANEOUS MANUFACTURED ARTICLES	120242	43.29	56.41	7.46	36.65	3.29	0.00
81	SANITARY,PLUMBING,HEATING & LIGHTING FIXTURES	250	98.31	1.69	1.56	0.05	0.00	0.00
82	FURNITURE	3111	8.38	91.62	1.56	18.70	32.16	0.00
83	TRAVEL GOODS,HANDBAGS AND SIMILAR ARTICLES	550	7.67	92.28	0.41	74.96	11.06	0.00
84	CLOTHING	98274	45.67	54.31	7.55	37.86	0.72	0.00
85	FOOTWEAR	1450	32.88	67.11	16.04	4.93	17.93	0.00
86	PROFESSIONAL,SCIENT. & CONTROLL. INSTRUMENTS	3766	79.56	20.42	0.03	0.09	19.83	0.00
89	MISCELLANEOUS MANUFACTURED ARTICLES,N.E.S.	12841	24.54	72.80	9.02	45.06	9.17	0.00
	TOTAL MANUFACTURES	2940408	27.80	70.67	7.61	22.24	38.82	0.43
	TOTAL: SITC 5-8 LESS 68 b/	500636	65.31	33.22	6.46	15.02	8.35	0.02
	TOTAL TRADED GOODS: SITC 0-9	21988893	19.92	77.75	19.04	6.33	49.26	0.65

NOTE: DATA AND SITC DESCRIPTIONS REFER TO SITC REVISION 1

a/ THIS TABLE IS BASED ON THE DEFINITION OF TRADE IN MANUFACTURES COVERING A LIST OF 148 SPECIFICALLY IDENTIFIED SITC 3-DIGIT OR 4-DIGIT CODES COMPRISING A WIDE RANGE OF PROCESSING STAGES OF MANUFACTURED GOODS.

b/ DEFINITION OF TRADE IN MANUFACTURES SITC 5-8 LESS 68 IS ONE OF THE MOST OFTEN FOUND. IT COVERS ONLY ITEMS RECOGNIZED AS EXCLUSIVELY MANUFACTURED GOODS, I.E. WITH A HIGH LEVEL OF MANUFACTURING CONTENT.

SOURCE: UNIDO DATA BASE; INFORMATION SUPPLIED BY THE UNITED NATIONS STATISTICAL OFFICE.

Annex Table 27

INDONESIA

SHARES OF EXPORTS AND IMPORTS CLASSIFIED ACCORDING TO LEVEL OF PROCESSING 1970 AND 1980
AND TREND GROWTH RATES 1970-1975 AND 1975-1980

CLASSES	EXPORTS				IMPORTS			
	CLASS SHARE OF TOTAL (PERCENTAGE)		CLASS GROWTH RATE (PERCENTAGE)		CLASS SHARE OF TOTAL (PERCENTAGE)		CLASS GROWTH RATE (PERCENTAGE)	
	1970	1980	1970-1975	1975-1980	1970	1980	1970-1975	1975-1980
A : NON-PROCESSED GOODS FOR FURTHER PROCESSING	85.58	72.13	56.74	19.01	0.00	13.81	66.57	45.21
B : PROCESSED GOODS FOR FURTHER PROCESSING	6.59	5.32	45.66	34.28	0.00	16.08	40.37	24.48
C : NON-PROCESSED GOODS FOR FINAL USE	3.18	15.04	36.62	83.39	0.00	0.82	11.15	5.57
D : PROCESSED GOODS FOR FINAL USE	4.65	7.52	74.51	27.30	0.00	69.28	49.18	10.69
		1970		1980		1970		1980
SUM OF CLASSES: A+B+C+D IN 1000 CURRENT US$		1054739		21908890		0		10834394
TOTAL TRADE SITC 0-9 IN 1000 CURRENT US$		1055090		21908890		0		10834394

SOURCE: UNIDO DATA BASE; INFORMATION SUPPLIED BY THE UNITED NATIONS STATISTICAL OFFICE, WITH ESTIMATES BY THE UNIDO SECRETARIAT.

NOTE: CALCULATIONS ARE BASED ON CURRENT US DOLLAR PRICES.
SUM OF CLASSES AND TOTAL TRADE FIGURES SHOULD BE IDENTICAL. DISCREPANCIES OR ZERO VALUES ARE DUE TO LACK
OF COUNTRYS" TRADE REPORTING IN GENERAL; BUT ESPECIALLY AT THE 3-,4- AND 5-DIGIT SITC LEVEL.

Annex Table 28

Employment and GDP at constant market prices, by sector, 1971 and 1980.

	Employment ('000)		GDP at constant 1973 market prices (Rp. billion)	
Sector	1971	1980	1971	1980
Agriculture, forestry fishery	24,963	28,834	2,441	3,425
Mining and quarrying	91	387	551	1,035
Manufacturing	2,950	4,680	490	1,705
Electricity, gas, water	38	66	25	78
Construction	741	1,657	171	639
Trade, banking, insurance	4,230	6,981	988	2,060
Transport, storage, communication	919	1,468	210	609
Other services	3,940	7,166	669	1,619
Unclassified	--	313		
All Sectors	39,474	51,553	5,545	11,169

Note: Totals do not add due to rounding.
The 1971 employment data are based on the C series of the 1971 population census. These estimates are considered best comparable with the results of the 1980 population census. The final results of the 1971 census give lower employment estimates, especially for manufacturing and would therefore lead to higher growth rates over the period 1971 to 1980.

Source: BPS, various publications.

Annex Table 29

Sectoral shares in employment and GDP at constant 1973 market prices and compound annual rates of increase in sectoral employment, gross value added at constant 1973 market prices and labour productivity; 1971-1980

Sector	Sectoral Shares (%)				Compound annual increase over 1971-1980 (%)		
	Employment		GDP at constant 1973 market prices				
	1971	1980	1971	1980	Employment[1]	Labour productivity[2]	Real production[2]
Agriculture, forestry fishery	65.9	56.3	44.0	30.7	1.6	2.2	3.8
Mining and quarrying	0.2	0.8	9.9	9.3	17.4	-8.4	7.3
Manufacturing	7.8	9.1	8.8	15.3	5.3	9.1	14.9
Electricity, gas, water	0.1	0.1	0.5	0.7	6.3	6.7	13.5
Construction	2.0	3.2	3.1	5.7	9.4	5.9	15.8
Trade, banking, insurance	11.2	13.6	17.8	18.4	5.7	2.6	8.5
Transport, storage, communication	2.4	2.9	3.8	5.4	5.3	6.9	12.6
Other services	10.4	14.0	12.1	14.5	6.9	3.2	10.3
All sectors	100.0	100.0	100.0	100.0	3.0	4.9	8.1

Source: BPS, various publications.

[1] In the calculation of the growth rates the category unclassified for 1971 was distributed proportionally among the different sectors.

[2] At constant 1973 market prices.

Annex Table 30

Manufactured exports in major East Asian Countries
(US $ million -. and percentage shares)

SITC	Commodity	Korea 1967	Korea 1975	Philippines 1967	Philippines 1975	Thailand 1967	Thailand 1975	Malaysia 1967	Malaysia 1975	Indonesia 1967	Indonesia 1975
		A. US $ Million									
	Total manufactured goods a/	221.0	4,255.9	75.9	371.0	50.9	582.6	100.0	933.4	16.6	135.0
0	Manufactured food	4.2	102.7	14.6	80.7	28.1	68.4	23.1	58.9	1.7	4.6
	Fish airtight containers	2.6	37.6	0.0	0.9	0.0	1.0	0.8	10.3		0.0
	Meal and flour of wheat	-	0.0	-	-	0.6	0.1	3.3	0.0	-	0.3
	Meal and flour of cereals	0.0	0.0	-	0.0	4.5	9.3	0.0	0.0	-	0.1
	Cereals preparation	0.3	4.4	0.0	0.9	0.6	1.7	0.9	5.2	-	0.6
	Dried fruit	0.0	0.1	-	30.4	0.0	2.9	0.0	0.1	0.1	0.0
	Fruit, preserved and prepared	0.0	1.6	13.2	45.1	0.3	18.2	14.5	24.8	0.0	0.8
	Vegetable, roots, tubers	1.2	27.9	0.0	0.5	21.8	23.6	1.7	6.1	1.2	0.1
	Cocoa butter and paste	-	-	1.0	-	-	-	-	0.5	-	1.0
	Miscellaneous food production	0.0	23.4	0.2	1.1	0.2	2.5	1.4	10.3	0.3	1.1
1	Manufactured beverages/tobacco	0.4	1.3	2.5	2.1	0.1	0.5	3.2	11.0	0.1	13.5
	Alcoholic beverages	0.4	1.1	2.1	1.3	0.1	0.4	2.9	3.9	0.1	0.2
	Tobacco manufactured	0.0	0.2	0.5	0.7	0.0	0.1	0.3	6.8	0.1	13.4
2	Manufactured crude materials	2.9	25.1	6.4	29.4	6.9	27.4	23.1	184.0	0.7	31.5
	Wood shaped/simply worked	2.7	15.9	6.4	27.2	6.9	27.2	23.1	183.6	0.7	31.5
	Plup/waste paper	-	0.0	-	2.0	-	-	0.0	0.2	-	-
4	Manufactured animal and vegetable (oils and fats)	0.1	0.6	0.0	1.0	0.0	0.1	0.1	15.1	0.2	0.0
	Animal/vegetable oil/fats	0.1	0.6	0.0	1.0	0.0	0.1	0.1	15.1	0.2	0.0
5	Chemicals	2.4	74.6	4.6	21.2	0.8	12.0	13.1	33.1	1.9	24.3
	Organic chemicals	0.3	31.5	1.3	5.3	0.1	1.5	1.0	2.7	-	1.1
	Inorganic chemicals	0.1	9.6	1.4	0.9	0.0	0.5	0.3	2.8	-	0.7
	Dyeing and colour materials	0.1	2.6	0.2	1.0	0.0	0.4	2.6	1.0	0.1	0.1
	Medical/pharmaceuticals	0.1	9.7	1.0	2.2	0.4	4.9	2.0	7.2	0.0	12.4
	Plastic materials	0.0	8.8	-	4.4	-	3.1	0.1	4.5	-	0.0
	Other chemicals	0.0	12.4	0.1	7.3	0.2	1.6	6.8	13.0	1.7	9.7

(Annex Table 30 continued)

SITC	Commodity	Korea 1967	Korea 1975	Philippines 1967	Philippines 1975	Thailand 1967	Thailand 1975	Malaysia 1967	Malaysia 1975	Indonesia 1967	Indonesia 1975
		(US $ Mill.)									
6	Manufactured goods	99.6	1,471.1	41.2	119.8	12.5	195.6	23.4	171.9	1.2	8.1
	Leather	-	0.7	-	0.0	0.2	2.4	0.0	0.1	0.1	0.4
	Rubber manufactured	2.0	90.9	0.4	0.7	0.1	3.0	4.7	18.1	-	0.2
	Wood and cork manufactures	36.6	227.5	35.9	59.8	0.8	22.7	4.2	85.6	0.1	1.1
	Paper and manufactures	1.8	36.8	0.1	0.7	0.0	4.2	1.0	3.5	0.0	0.3
	Textile, yarn and threads	3.1	205.0	0.1	4.3	0.1	9.6	0.6	5.3	-	0.0
	Cotton fabrics	12.6	50.5	0.2	1.7	0.3	17.1	3.1	20.0	0.5	0.4
	Textile fabrics (no cotton)	19.5	271.7	0.2	0.6	2.2	27.2	0.0	4.0	0.1	0.1
	Building materials	0.4	73.1	0.0	27.2	0.8	25.9	4.1	3.3	-	0.0
	Glass/glassware	0.5	7.9	0.2	1.9	0.2	1.0	0.1	2.7	-	-
	Pearls, semi-precious	0.0	1.6	-	-	4.5	38.7	-	0.2	0.0	0.3
	Iron and steel ingots	0.2	34.6	-	0.2	-	-	0.0	0.1	-	-
	Iron and steel bars	0.2	46.5	-	0.0	0.0	0.1	0.0	0.9	-	0.1
	Iron and steel plates	1.0	74.3	0.0	0.0	0.1	0.9	1.2	1.0	-	0.0
	Iron and steel tubes	0.2	59.5	-	0.7	0.3	4.1	0.8	2.8	-	0.2
	Tools	0.5	6.3	-	0.2	0.0	1.2	0.1	0.7	-	1.8
	Other manufactured goods	20.4	260.4	4.1	19.9	2.8	35.3	2.7	19.0	0.4	3.0
7	Machinery and transport equipment	14.2	700.7	0.7	12.8	0.5	28.5	3.9	238.8	10.4	32.1
	Power generating machinery	1.0	2.4	-	0.0	0.0	0.2	0.0	6.7	-	8.0
	Office machines	0.0	44.1	-	0.0	-	0.4	0.0	31.9	-	0.3
	Electrical machinery	7.4	440.9	0.0	5.3	0.4	23.3	2.3	126.6	-	12.9
	Road motor vehicles	0.9	3.4	0.0	1.6	0.1	1.0	0.1	12.8	-	0.2
	Aircraft	0.5	14.3	-	0.0	-	0.0	0.0	10.1	-	3.0
	Ships and boats	1.3	137.8	0.6	1.2	0.0	0.0	0.0	3.2	-	1.1
	Other machinery and equipment	2.9	36.7	0.1	4.6	0.1	3.4	1.3	45.4	10.4	6.5
8	Miscellaneous manufactured articles	97.2	1,879.7	2.7	104.1	1.9	250.2	10.2	220.6	0.3	20.9
	Furniture	0.1	10.8	6.6	5.2	0.0	3.1	1.3	4.0	-	0.2
	Clothing and textile fabrics	59.2	1,131.6	0.3	33.1	0.9	53.5	3.2	42.2	-	2.4
	Footwear	8.1	191.2	0.2	3.0	0.0	0.7	1.8	14.7	-	0.2
	Scientific and medical instruments	0.3	23.0	-	0.8	0.0	1.5	0.1	136.1	-	2.6
	Watches and clocks	0.1	43.0	-	0.1	-	3.1	0.0	2.9	-	0.0
	Sound recording and medical instruments	0.1	83.2	0.0	1.4	0.0	0.1	0.5	3.0	-	0.4
	Printed matter	0.5	16.3	0.1	0.4	0.0	169.0	1.2	2.6	0.1	8.4
	Toys, sporting games	0.8	69.0	0.0	-	0.1	0.7	0.1	1.0	-	0.1
	Others	27.6	293.5	1.5	58.3	0.8	17.5	1.9	12.5	0.3	6.4

(Annex Table 30 continued)

SITC	Commodity	Korea 1967	Korea 1975	Philippines 1967	Philippines 1975	Thailand 1967	Thailand 1975	Malaysia 1967	Malaysia 1975	Indonesia 1967	Indonesia 1975
		B. Percentage Share									
	Total manufactured goods a/	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0	Manufactured food	1.9	2.4	20.0	21.7	55.2	11.7	23.1	6.3	10.2	3.4
	Fish air-tight containers	1.2	0.9	0.0	0.2	0.0	1.7	0.8	1.1	1.2	0.0
	Meal and flour of wheat	-	0.0	-	-	1.2	0.0	3.3	0.0	-	0.2
	Meal and flour of cereals	0.0	0.0	-	0.0	8.8	1.6	0.0	0.0	-	0.1
	Cereals preparation	0.2	0.1	0.0	0.2	1.2	0.3	0.9	0.6	-	0.4
	Dried fruit	0.0	0.0	-	8.2	0.0	0.5	0.0	0.0	0.5	0.0
	Fruit, preserved and prepared	0.0	0.0	18.2	12.2	0.6	3.1	14.5	2.7	0.0	0.6
	Vegetables, roots, tubers	0.5	0.7	0.0	0.1	42.9	4.0	1.7	0.7	7.3	0.1
	Cocoa butter and paste	-	-	1.4	-	-	-	-	0.1	-	0.8
	Miscellaneous food production	0.0	0.6	0.3	0.3	0.5	0.4	1.4	1.1	1.2	0.8
1	Manufactured beverages/tobacco	0.2	0.0	3.5	0.6	0.3	0.1	3.2	1.2	0.9	10.0
	Alcoholic beverages	0.2	0.0	2.8	0.4	0.3	0.1	2.9	0.4	0.4	0.1
	Tobacco manufactured	0.0	0.0	0.6	0.2	0.0	0.0	0.3	0.7	0.5	9.9
2	Manufactured crude materials	1.3	0.6	8.8	7.9	13.5	4.7	23.1	19.7	4.3	23.4
	Wood shaped/simply worked	1.2	0.4	8.8	7.3	13.5	4.7	23.1	19.7	4.3	23.4
	Pulp/waste paper	-	0.0	-	0.5	-	-	0.0	0.0	-	-
4	Manufactured animal and vegetable (oils and fats)	0.0	0.0	0.1	0.3	0.0	0.0	0.1	1.6	1.2	0.0
	Animal/vegetable oils/fats	0.0	0.0	0.1	0.3	0.0	0.0	0.1	1.6	1.2	0.0
5	Chemicals	1.1	1.8	6.3	5.7	1.6	2.1	13.1	3.5	11.5	18.0
	Organic chemicals	0.1	0.7	1.9	1.4	0.3	0.3	1.0	0.3	-	0.8
	Inorganic chemicals	0.1	0.2	1.9	0.3	0.1	0.1	0.3	0.3	-	0.5
	Dyeing + color materials	0.1	0.1	0.3	0.3	0.0	0.1	2.6	0.1	0.9	0.1
	Medical/pharmaceuticals	0.1	0.2	1.4	0.6	0.8	0.8	2.0	0.8	0.2	9.2
	Plastic materials	0.0	0.2	-	1.2	-	0.5	0.1	0.5	-	0.0
	Other chemicals	0.0	0.3	0.2	2.0	0.4	0.3	6.8	1.4	10.5	7.2
6	Manufactured goods	45.1	34.6	56.6	32.3	24.6	33.6	23.4	18.4	7.2	6.0
	Leather	-	0.0	-	0.0	0.3	0.4	0.0	0.0	0.3	0.3
	Rubber manufactured	0.9	2.1	0.5	0.2	0.2	0.5	4.7	1.9	-	0.1
	Wood and cork manufactures	16.6	5.3	49.3	16.1	1.5	3.9	4.2	9.2	0.3	0.8
	Paper and manufactures	0.8	0.9	0.2	0.2	0.1	0.7	1.0	0.4	0.0	0.3
	Textile yarns and thread	1.4	4.8	0.1	1.3	0.2	1.7	0.6	0.6	-	0.0
	Cotton fabrics	5.7	1.2	0.3	0.5	0.6	2.9	3.1	2.1	3.3	0.3

(Annex Table 30 continued)

SITC	Commodity	Korea		Philippines		Thailand		Malaysia		Indonesia	
		1967	1975	1967	1975	1967	1975	1967	1975	1967	1975
		(Percentage Share)									
	Textile fabrics (noncotton)	8.8	6.4	0.3	0.1	4.3	4.7	0.0	0.4	0.6	0.1
	Building materials	0.2	1.7	0.0	7.3	1.6	4.4	4.1	0.3	-	0.0
	Glass/glassware	0.2	0.2	0.2	0.5	0.4	0.2	0.1	0.3	-	-
	Pearls, precious (and semiprecious) stones	0.0	0.0	-	-	8.8	6.6	-	0.0	0.1	0.3
	Iron and steel ingots	0.1	0.8	-	0.1	-	-	0.0	0.0	-	-
	Iron and steel bars	0.1	1.1	-	0.0	0.0	0.0	0.0	0.1	-	0.1
	Iron and steel plates	0.4	1.7	0.0	0.0	0.3	0.1	1.2	0.1	-	0.0
	Iron and steel tubes	0.1	1.4	-	0.2	0.6	0.7	0.8	0.3	-	0.2
	Tools	0.2	0.1	-	0.1	0.0	0.2	0.1	0.1	-	1.3
	Other manufactured goods	9.3	6.1	5.7	5.4	5.4	6.1	2.7	2.0	2.6	2.2
7	Machinery and transport equipment	6.4	16.5	1.0	3.4	1.1	4.9	3.9	25.6	62.8	23.8
	Power generating machinery	0.4	0.1	-	0.0	0.0	0.0	0.0	0.7	-	5.9
	Office machines	0.0	1.0	-	0.0	-	0.1	0.0	3.4	-	0.2
	Electrical machinery	3.3	10.4	0.0	1.4	0.8	4.0	2.3	13.6	-	9.6
	Road motor vehicles	0.4	0.1	0.0	0.4	0.1	0.2	0.1	1.4	-	0.2
	Aircraft	0.2	0.3	-	0.0	-	0.0	0.0	1.1	-	2.3
	Ships and boats	0.6	3.2	0.8	0.3	0.0	0.0	0.0	0.3	-	0.8
	Other machinery and equipment	1.3	0.9	0.1	1.2	0.2	0.6	1.3	4.9	62.8	4.8
8	Miscellaneous manufactured articles	44.0	44.2	3.7	28.1	3.7	42.9	10.1	23.6	1.9	15.5
	Furniture	0.1	0.3	0.9	1.4	0.1	0.5	1.3	0.4	-	0.2
	Clothing and textile fabrics	26.8	26.6	0.4	8.9	1.8	9.2	3.2	4.5	-	1.8
	Footwear	3.7	4.5	0.2	0.8	0.0	0.1	1.8	1.6	-	0.2
	Scientific and medical instruments	0.1	0.5	-	0.2	0.0	0.3	0.1	14.6	-	2.0
	Watches and clocks	0.0	1.0	-	0.0	-	0.5	0.0	0.3	-	0.0
	Sound recording and medical instruments	0.1	2.0	0.0	0.4	0.0	0.0	0.5	0.3	-	0.3
	Printed matter	0.2	0.4	0.1	0.1	0.0	29.0	1.2	0.3	0.3	6.2
	Toys, sporting goods	0.4	1.6	0.0	-	0.2	0.1	0.1	0.1	-	0.1
	Others	12.5	6.9	2.1	15.7	1.5	3.0	1.9	1.3	1.6	4.7

a/ SITC categories, i.e., excluding mineral and agro-processing industries.

Notes: (1) Major commodity groups as one-digit SITC level are underlined and should add up to 100% except for rounding off. Within a commodity group, only those commodities with a share of 1% or more in any year has been listed.

(2) Entries of 0.0 show either a zero or negligible value.

Source: World Bank, Philippines Industrial Development Strategy and Policies, Washington 1980.

Annex Table 31

Manufactured exports by type of industry and country sample, 1975

(millions dollars and percentage[a/])

Industry	SITC	Exports of 74 devloping countries (including oil countries)	NICs	Comparative sample of developing countries	Comparative sample of developed countries
A. Resource-based industries					
Petroleum products	332	13,545.1 (41.0)	2,032.5 (24.9)	330.7 (6.1)	542.8 (12.1)
Sugar and honey	061	4,040.7 (12.2)	1,604.1 (19.7)	1,677.9 (12.6)	50.5 (1.1)
Other fixed vegetable oils	422	1,420.1 (4.3)	215.7 (2.6)	347.9 (6.5)	23.0 (0.5)
Copper	682	1,246.8 (3.8)	39.6 (0.5)	1.9 (0.0)	182.3 (4.1)
Animal feeding stuff	081	1,099.4 (3.3)	718.9 (8.8)	192.4 (3.6)	46.8 (1.0)
Tea and mate	074	783.1 (2.4)	34.2 (0.4)	567.2 (10.5)	b -
Tin	687	753.3 (2.3)	28.2 (0.3)	112.2 (2.1)	10.8 (0.2)
Rice, glazed or polished	0422	693.2 (2.1)	6.8 (0.1)	31.8 (0.6)	20.5 (0.5)
Wood, shaped	243	620.5 (1.9)	169.1 (2.1)	113.0 (2.1)	143.7 (3.2)
Fixed vegetable oils, soft	421	516.7 (1.6)	240.1 (2.9)	87.9 (1.6)	156.5 (3.5)
Veneer, plywood	631	497.6 (1.5)	331.2 (4.1)	63.0 (1.2)	62.6 (1.4)
Fruit, preserved, prepared	053	373.9 (1.1)	182.2 (2.2)	106.6 (2.0)	241.1 (5.4)
Fertilizers	561	351.6 (1.1)	30.9 (0.4)	54.3 (1.0)	183.0 (4.1)
Mineral tar etc.	521	335.2 (1.0)	21.6 (0.3)	16.1 (0.3)	2.2 (0.0)
Cocoa powder (unsweetened), butter and paste	0722/3	317.0 (1.0)	13.5 (0.2)	107.5 (2.0)	20.8 (0.5)
Inorganic chemicals	513	287.5 (0.9)	103.1 (1.3)	58.7 (1.1)	178.6 (4.0)
Silver, plantinum etc	681	285.0 (0.9)	6.0 (0.1)	273.0 (5.1)	40.8 (0.9)
Organic chemicals	512	256.4 (0.8)	176.8 (2.2)	30.6 (0.6)	213.9 (4.8)
Meat, tinned, n.e.s.	013	255.6 (0.8)	198.3 (2.4)	0.6 (0.0)	58.6 (1.3)
Aluminium	684	200.7 (0.6)	18.2 (0.2)	45.2 (0.8)	225.3 (5.0)
Total resource-based industries		33,055.9 (100.0)	8,147.1 (100.0)	5,389.9 (100.0)	4,468.7 (100.0)
B. Non-resource-based industries					
Clothing	841	4,255.4 (20.6)	3,428.8 (24.2)	435.2 (12.3)	784.5 (7.7)
Electrical machinery	729	1,003.0 (4.9)	900.9 (6.4)	40.4 (1.1)	199.0 (1.9)
Cotton fabrics	652	943.9 (4.6)	437.0 (3.1)	289.7 (8.2)	99.2 (1.0)
Textile yarn	651	899.9 (4.4)	507.9 (3.6)	232.7 (6.6)	352.9 (3.4)
Road motor vehicles	732	855.9 (4.1)	545.6 (3.9)	85.1 (2.4)	618.4 (6.0)
Woven textiles, non-cotton	653	763.8 (3.7)	433.3 (3.1)	223.1 (6.3)	201.2 (2.0)

(Annex Table 31 continued)

Industry	SITC	Exports of 74 developing countries (including oil countries)	NICs	Comparative sample of developing countries	Comparative sample of developed countries
Telecommunications equipment	724	761.2 (3.7)	688.5 (4.9)	16.1 (0.5)	217.8 (2.1)
Footwear	851	610.1 (3.0)	440.5 (3.1)	76.1 (2.1)	698.7 (6.8)
Machines, n.es., non-electrical	719	505.6 (2.4)	356.4 (2.5)	60.4 (1.7)	449.9 (4.4)
Toys, sporting goods	894	481.3 (2.3)	426.7 (3.0)	18.6 (0.5)	94.0 (0.9)
Textile goods, n.e.s.	656	436.9 (2.1)	137.3 (1.0)	192.5 (5.4)	152.0 (1.5)
Office machines	714	429.0 (2.1)	382.9 (2.7)	8.7 (0.2)	90.6 (0.9)
Leather	611	389.2 (1.9)	110.4 (0.8)	198.8 (5.6)	80.0 (0.8)
Other manufactured goods	899	358.7 (1.7)	263.7 (1.9)	57.8 (1.6)	47.9 (0.5)
Floor covering, tapestry	657	344.2 (1.7)	37.6 (0.3)	79.2 (2.2)	63.1 (0.6)
Instruments, apparatus	861	334.2 (1.6)	160.3 (1.1)	10.7 (0.3)	54.0 (0.5)
Cement etc.	661	330.2 (1.6)	126.5 (0.9)	103.0 (2.9)	260.8 (2.5)
Ships, boats	735	327.2 (1.6)	296.0 (2.1)	11.6 (0.3)	758.1 (7.4)
Medicinal products	541	318.6 (1.5)	179.4 (1.3)	50.5 (1.4)	145.2 (1.4)
Power-generating machines, non-electric	711	305.9 (1.5)	237.5 (1.7)	40.5 (1.1)	125.1 (1.2)
Printed matter	892	302.6 (1.5)	155.7 (1.1)	30.8 (0.9)	205.0 (2.0)
Electric power machines	722	298.3 (1.4)	157.4 (1.1)	29.9 (0.8)	220.7 (2.2)
Articles of plastics, n.e.s.	893	273.0 (1.3)	219.6 (1.6)	17.7 (0.5)	45.0 (0.4)
Iron and steel tubes and pipes	678	272.5 (1.3)	184.2 (1.3)	45.6 (1.3)	216.2 (2.1)
Travel goods	831	256.7 (1.2)	201.1 (1.4)	34.7 (1.0)	36.2 (0.4)
Machines for special industries	718	251.4 (1.2)	172.0 (1.2)	19.4 (0.5)	83.8 (0.8)
Watches, clocks	864	238.4 (1.2)	228.2 (1.6)	3.8 (0.1)	24.9 (0.2)
Total non-resource based industries		20,677.9 (100.0)	14,161.0 (100.0)	3,551.5 (100.0)	10,254.8 (100.0)

Source: Data supplied by the United Nations Statistical Office

a/ Value of exports in million dollars and the industry's share in the group's total exports of resource-based industries (A) or non-resource-based industries (B).

b/ Value less than $1,000,000

c/ Totals include other industries

Source: UNIDO, World industry in 1980, New York, 1981.

Annex Table 32

Wages per worker and labour productivity for selected industries in 1974 (in US $)

Sector	Malaysia (1973)		Philippines (1974)		Indonesia (1974)	
	Wage/ worker	Value added/ worker	Wage/ worker	Value added/ worker	Wage/ worker	Value added/ worker
Clothing	455	1,187	309	609	190	388
Textiles	647	1,924	530	2,010	242	824
Wood	938	3,152	530	1,673	288	845
Furniture	843	1,719	456	961	254	457
Leather	513	1,678	412	1,156	240	860
Metal products	1,409	2,538	677	2,816	326	857
Total industry	896	3,561	692	4,329	280	1,245

Sources: Malaysia: Census of Manufacturing Industries, 1973 (coverage all manufacturing enterprises.)

Philippines: Census of Manufacturing Industries, 1974 (coverage enterprises with 5 or more employees).

Indonesia: Census of Manufacturing Industries, 1974/75 (data in table cover small-, medium- and large-scale enterprises).

Annex Table 33

Analysis of changes in imports of labour intensive products in which developing countries market shares made their largest increases over the interval 1965 to 1975 (values in $ million)

		1965 imports				1975 imports									
		U.S.A.		Other developed		U.S.A.		Other developed		LDCs share in the U.S.A.			LDCs share in other developed		
SITC	Description	LDCs	Total	LDCs	Total	LDCs	Total	LDCs	Total	1965	1975	Change	1965	1975	Change
(89940)	Umbrellas	1.3	7.6	1.1	17.5	14.9	18.1	45.8	104.5	17.1	82.6	65.5	6.3	43.8	37.6
(84130)	Leather clothing	9.2	42.9	1.7	35.1	160.9	216.9	235.9	656.8	21.0	74.2	53.2	4.8	35.9	31.1
(89910)	Carved manufactures	0.8	2.6	1.2	12.7	9.4	15.3	23.6	58.3	30.8	61.5	30.7	9.4	40.4	30.9
(89920)	Basketwork and brooms	5.0	24.1	3.6	53.9	38.4	74.0	77.1	256.8	20.7	51.8	31.1	6.7	30.0	23.3
(83100)	Travel goods	18.6	50.0	5.9	91.4	163.2	217.9	158.6	612.8	37.2	74.9	37.7	6.5	25.9	19.4
(84200)	Fur clothing	0.2	2.0	0.3	28.7	8.0	14.8	75.7	383.5	10.0	53.9	43.9	1.0	19.7	18.7
(63110)	Venner sheets	16.6	45.8	6.3	101.8	14.5	51.1	64.5	271.1	36.2	28.4	-7.9	6.2	23.8	17.6
(71420)	Calculating machines	0.2	53.7	0.1	347.1	111.7	339.4	161.1	982.4	0.4	32.9	32.5	0.0	16.4	16.4
(72420)	Radio receivers	19.8	149.0	8.2	201.3	294.2	661.0	278.1	1,365.1	13.3	44.5	31.2	4.1	20.4	16.3
(84110)	Clothing not knitted	100.5	214.2	104.7	611.3	830.1	1,022.5	1,852.5	5,566.9	46.9	81.2	34.3	17.1	33.3	16.1
(63120)	Plywood	56.0	124.9	27.7	191.4	208.7	262.1	212.4	717.1	44.8	79.6	34.8	14.5	29.6	15.1
(3200)	Canned fish	20.0	83.6	36.6	304.6	44.9	165.7	223.4	824.6	23.9	27.1	3.2	12.0	26.5	14.5
(65550)	Cordage	19.0	48.7	2.5	42.1	73.0	123.4	42.0	205.8	39.0	59.1	20.1	5.9	20.4	14.4
(84140)	Knitted accessories	64.2	221.5	94.7	631.0	932.0	1,123.0	1,240.6	4,327.7	29.0	83.0	54.0	15.0	28.7	13.7
(63200)	Wood products, nes	9.1	77.4	4.4	144.7	77.4	204.9	127.5	780.2	11.8	37.8	26.0	3.0	16.3	13.3
(39990)	Other manufactures, nes	55.8	81.7	11.7	50.9	84.3	94.2	62.7	180.0	68.3	89.5	21.2	23.0	34.8	11.8
(84120)	Clothing accessories	15.5	48.4	11.5	127.9	79.3	139.2	99.0	516.8	32.0	57.0	25.0	9.0	19.2	10.2
(84150)	Headgear	0.9	13.0	0.9	45.6	18.0	34.5	19.3	158.5	6.9	52.4	45.4	2.0	12.2	10.2
(89720)	Imitation jewelry	5.0	17.5	3.5	32.4	50.1	81.8	38.8	186.6	28.6	61.3	32.7	10.8	20.8	10.0
(61200)	Leather manufactures	1.7	10.2	2.4	45.8	18.0	32.5	33.1	226.5	16.7	55.5	38.9	5.2	14.6	9.4
(86410)	Watches	0.8	79.3	0.7	141.0	98.9	298.1	87.5	914.1	1.0	33.2	32.2	0.5	9.6	9.1
(86140)	Photographic cameras	1.1	37.4	1.6	101.7	22.8	175.3	66.5	624.5	2.9	13.0	10.0	1.6	10.6	9.1
(69600)	Cultery	1.5	43.1	3.2	110.3	16.7	119.5	45.9	412.7	3.5	13.9	10.5	2.9	11.1	8.2
(72930)	Thermionic materials	9.2	63.2	0.8	375.2	729.9	910.7	223.4	2,738.3	14.6	80.2	65.6	0.2	8.2	7.9
(65100)	Textile yarn	5.9	63.6	21.1	1,035.1	21.7	130.4	386.9	4,030.3	9.3	16.6	7.4	2.0	9.6	7.6
(65350)	Synthetic fabrics	0.6	28.1	1.6	239.0	13.9	172.8	164.5	2,018.6	2.1	8.0	5.9	0.7	8.1	7.5
(69700)	Household equipment	4.8	33.2	3.4	175.7	56.6	135.6	67.7	767.5	14.5	41.7	27.3	1.9	8.8	6.9
(24300)	Shaped wood	25.3	375.2	162.7	1,466.0	55.4	792.2	596.6	3,378.7	6.7	7.0	0.3	11.1	17.7	6.6
(63180)	Simply worked wood	8.6	20.7	0.3	18.5	22.1	46.7	39.8	501.2	41.5	47.4	5.0	1.6	7.9	6.3
(89110)	Tape recorders	0.0	100.6	0.2	211.6	76.6	603.3	76.9	1,228.1	0.0	12.7	12.7	0.1	6.3	6.2
(73310)	Bicycles and parts	0.3	30.9	0.1	42.7	23.6	136.6	18.6	309.6	1.0	17.3	16.3	0.2	6.0	5.8
(61100)	Leather	20.4	67.5	73.6	313.9	44.4	89.2	324.5	1,110.7	30.2	49.6	19.6	23.4	29.2	5.8
(85100)	Footwear	10.6	159.9	26.6	367.9	545.1	1,301.4	334.2	2,612.8	6.6	41.9	35.3	7.2	12.8	5.6
(61300)	Tanned fur skins	0.1	11.2	1.8	105.5	0.7	10.5	27.2	377.3	0.9	7.1	6.2	1.7	7.2	5.5
(89710)	Gold jewelry	1.1	15.8	3.6	115.9	38.5	120.1	50.3	576.5	7.0	30.0	23.1	3.3	8.7	5.4
(66130)	Building stone	0.4	15.1	0.7	42.9	2.4	32.8	17.0	248.7	2.6	7.3	4.6	1.6	6.8	5.2
(65360)	Other fabrics	0.7	25.0	2.5	334.7	0.6	12.7	34.0	680.3	2.8	4.4	1.6	0.7	5.0	4.2
(64400)	Tulle or lace	2.2	16.5	2.6	153.1	6.7	19.6	17.5	303.4	13.3	34.1	20.8	1.7	5.6	4.1
(89100)	Musical instruments	1.9	56.0	0.7	166.3	122.8	782.8	107.9	2,423.8	3.4	14.4	11.0	0.4	4.4	4.0
(41110)	Oils of fish	0.7	6.0	28.9	133.1	0.2	3.2	53.9	210.6	11.7	4.8	-6.9	21.7	25.6	3.9
(65600)	Made-up textile fabrics	6.5	34.8	31.8	198.3	53.7	98.3	198.8	1,007.0	18.7	54.6	36.0	16.0	19.7	3.7
(89400)	Sporting goods	23.6	140.6	40.1	363.6	297.2	636.0	293.7	1,990.9	16.8	46.7	29.9	11.0	14.8	3.7
(86420)	Clocks	0.0	20.9	0.4	110.7	38.4	128.2	17.6	454.4	0.0	29.9	29.9	0.4	3.9	3.5
(71730)	Sewing machines	0.1	71.2	0.6	133.7	13.8	187.2	17.5	440.8	0.1	7.4	7.2	0.4	3.9	3.5
(65500)	Special textile fabric	4.3	15.9	1.3	212.5	83.3	215.1	57.4	1,473.3	27.0	39.0	11.9	0.6	3.9	3.3
(71490)	Other machines	1.1	31.2	0.3	360.1	99.5	449.4	60.9	1,958.8	3.5	22.1	18.6	0.1	3.1	3.0
TOTAL		551.2	2,882.7	740.4	10,146.1	5,707.1	12,507.9	8,458.3	51,201.2	19.1	45.6	26.5	7.3	16.5	9.2

Source: H.D. Tuong and A. Yeats, "On factor proportions as a guide to future composition of developing countries exports", Journal of Development Economics, Vol. 7 (1980), pp. 521-539.

(Annex Table 33 continued)

Analysis of changes in imports of labour intensive products in which developing countries market shares fell or showed only slight increases over the interval 1965 to 1975 (values in million)

SITC	Description	1965 imports U.S.A.		1965 imports Other developed		1975 imports U.S.A.		1975 imports Other developed		LDCs share in the USA			LDCs share in other developed		
		LDCs	Total	LDCs	Total	LDCs	Total	LDCs	Total	1965	1975	Change	1965	1975	Change
(66700)	Precious stones	16.4	46.0	36.4	117.2	329.2	851.5	626.6	4,183.9	35.7	38.7	3.0	32.8	15.0	-17.7
(8140)	Fish or meat meal	23.9	34.9	127.9	267.8	17.7	27.8	116.7	373.9	65.5	63.7	-4.8	47.8	31.2	-16.6
(41100)	Fish oils	0.7	6.0	28.9	133.1	0.2	12.5	54.7	555.7	11.7	1.2	-10.5	21.7	9.9	-11.9
(55100)	Essential oils	18.8	45.6	33.7	164.8	30.5	77.7	61.3	479.2	41.2	39.3	-1.9	20.4	12.8	-7.7
(65610)	Textile bags	0.4	0.7	50.4	74.2	0.7	1.2	63.3	103.7	57.1	54.6	-2.6	67.9	61.0	-6.9
(65340)	Woven jute fabrics	174.0	186.7	55.9	76.5	123.2	124.1	66.9	97.3	93.2	99.3	6.1	73.1	68.8	-4.3
(65700)	Floor coverings	15.7	54.3	120.7	415.1	45.4	106.0	465.8	1,787.0	28.9	42.8	13.9	29.1	26.1	-3.0
(81240)	Lighting fixtures	4.8	33.0	8.0	108.1	19.2	59.3	27.5	533.1	14.5	32.4	17.8	7.4	5.2	-2.2
(63300)	Cork manufactures	0.1	3.9	2.4	43.9	0.0	10.3	3.8	102.0	2.6	0.4	-2.2	5.5	3.7	-1.8
(66180)	Cement building material	1.0	5.8	0.8	46.0	2.6	6.8	0.8	180.0	17.2	38.6	21.4	1.7	0.4	-1.3
(63140)	Improved wood	0.1	0.8	0.6	53.5	0.0	4.3	1.1	366.2	12.5	0.0	-12.5	1.1	0.3	-0.8
(89960)	Orthopaedic goods	0.3	3.1	0.4	26.4	0.9	15.5	2.0	245.8	9.7	5.7	-4.0	1.5	0.8	-0.7
(62100)	Rubber materials	0.0	0.0	2.3	119.6	0.0	0.4	8.0	554.3	0.0	2.1	2.1	1.9	1.4	-0.5
(5500)	Prepared vegetables	23.1	45.3	52.6	238.6	78.7	183.8	250.6	1,164.8	51.0	42.8	-8.1	22.0	21.5	-0.5
(65370)	Knitted fabrics	0.1	9.4	3.2	169.2	1.3	49.1	12.4	891.5	1.1	2.6	1.5	1.9	1.4	-0.5
(65330)	Linens	0.0	0.0	0.2	16.0	0.0	0.0	0.6	57.9	0.0	0.0	0.0	1.2	1.0	-0.3
(6200)	Sugar confectionery	0.4	16.6	1.3	58.3	15.0	79.6	8.5	373.2	2.4	18.9	16.5	2.2	2.3	0.0
(65190)	Textile yarn, nes	1.2	2.0	13.2	35.5	6.6	7.3	16.6	44.4	60.0	90.2	30.2	37.2	37.3	0.1
(71980)	Mehanical goods, nes	0.3	55.6	0.4	447.0	18.3	316.6	5.4	2,303.0	0.5	5.8	5.2	0.1	0.2	0.1
(84160)	Rubber clothing	0.0	0.0	0.1	9.9	0.0	0.0	0.7	60.2	0.0	0.0	0.0	1.0	1.2	0.2
(89950)	Toilet articles	0.7	8.7	2.1	57.2	1.7	26.9	8.1	210.0	8.0	6.2	-1.9	3.7	3.9	0.2
(71200)	Agricultural machines	0.5	194.5	0.1	935.7	9.7	872.1	8.1	3,698.8	0.3	1.1	0.9	0.0	0.2	0.2
(71520)	Metal working machines	0.0	7.4	0.1	145.2	0.8	41.2	1.7	715.4	0.0	1.8	1.8	0.1	0.2	0.2
(71830)	Food processing machines	0.1	14.7	0.2	90.0	1.8	49.1	1.6	418.6	0.7	3.7	3.0	0.2	0.4	0.2
(89930)	Candles and machines	0.8	19.2	2.0	60.0	9.1	60.2	11.9	322.5	4.2	15.1	10.9	3.3	3.7	0.3
(71810)	Paper mill machinery	0.0	22.4	0.1	173.9	0.6	83.9	2.6	761.7	0.0	0.7	0.7	0.1	0.3	0.3
(71710)	Textile machinery	0.0	81.4	0.3	547.5	2.2	329.3	8.8	1,990.2	0.0	0.7	0.7	0.1	0.4	0.4
(71960)	Machines, nes	0.1	17.9	0.5	307.9	6.1	104.1	8.8	1,596.1	0.6	5.8	5.3	0.2	0.5	0.4
(73100)	Railway vehicles	0.0	7.4	0.2	114.5	3.4	90.6	2.9	488.0	0.0	3.8	3.8	0.2	0.6	0.4
(73290)	Motorcycles and parts	0.0	141.0	0.0	77.6	4.4	744.4	3.6	658.3	0.0	0.6	0.6	0.0	0.5	0.5
(71950)	Power tools, nes	0.1	34.3	0.2	261.8	8.1	220.1	7.6	1,338.5	0.3	3.7	3.4	0.1	0.6	0.5
(71992)	Taps and valves	0.2	12.2	0.5	309.1	11.7	167.9	11.0	1,756.6	1.6	7.0	5.3	0.2	0.6	0.5
(65310)	Silk fabrics	2.3	29.7	2.5	45.5	1.6	16.7	15.4	251.4	7.7	9.4	1.7	5.5	6.1	0.6
(65390)	Woven fabrics, nes	1.5	37.4	0.2	16.4	3.6	21.7	0.3	18.9	4.0	16.4	12.4	1.2	1.8	0.6
(72940)	Automotive equipment	0.0	9.1	0.7	142.0	22.7	112.2	8.8	837.1	0.0	20.2	20.2	0.5	1.0	0.6
(71510)	Machine tools	0.3	36.1	0.5	684.1	7.9	326.5	15.3	2,360.7	0.5	2.4	1.9	0.1	0.6	0.6
(69890)	Metal articles, nes	3.3	41.4	1.6	206.3	20.1	272.0	18.7	1,243.0	8.0	7.4	-0.6	0.8	1.5	0.7
(71430)	Statistical machines	0.0	4.2	4.0	264.0	1.2	129.0	86.4	3,794.3	0.0	0.9	0.9	1.5	2.3	0.8
(73280)	Motor vehicle bodies	0.7	157.6	1.0	1,770.0	97.1	2,507.2	82.6	9,706.8	0.4	3.9	3.4	0.1	0.9	0.8
(86160)	Photographic apparatus	0.0	4.3	0.6	119.8	0.7	25.1	17.1	1,201.2	0.0	2.7	2.7	0.5	1.4	0.9
(86170)	Medical instruments,nes	0.2	13.2	0.8	89.2	7.1	99.9	14.0	772.7	1.5	7.1	5.6	0.9	1.8	0.9
(69880)	Miscellaneous metal art.	1.1	3.9	0.3	72.4	4.1	40.4	4.5	341.7	28.2	10.1	-18.1	0.4	1.3	0.9
(71920)	Pumps	0.2	34.7	0.9	643.8	7.3	344.3	42.2	3,655.8	0.6	2.1	1.6	0.1	1.2	1.0
(66300)	Mineral products, nes	3.9	16.6	0.9	240.9	9.6	83.2	15.7	1,119.9	23.5	11.5	-12.0	0.4	1.4	1.0
(66400)	Glass	2.4	56.6	0.4	278.4	6.3	119.3	12.1	1,015.9	4.2	5.3	1.0	0.[illegible]	1.2	1.0
Total		299.7	1,575.6	562.1	10,273.9	938.3	8,821.0	2,204.7	54,731.2	19.0	10.6	-8.4	5.5	4.0	-1.4

Source: H.D. Tuong and A. Yeats (1980), op.cit

Annex Table 34

Export performance ratios for manufacturing industries, by country sample

SITC	Commodity (industry)	Type codes[a/] RES	SK	PD	FI	Export performance ratio (1966-1967/1975-1976)		
						Developed countries, comparative sample	NICs	Developing countries, comparative sample
012	Meat, dried, salted or smoked	R				-[b/]	-[b/]	-[b/]
013	Meat and meat preparations	R				5.1/4.0	24.3/18.4	-
022	Milk and cream	R				-	-	0.0/0.4
023	Butter	R				-	-	-
024	Cheese and curd	R				-	-	-
032	Fish and fish preparations	R				18.6/8.2	2.3/2.5	0.4/3.6
0422	Rice, glazed or polished	R				-	-	12.4/3.4
046	Meal and flour of wheat or of meslin	R				-	0.9/3.0	-
047	Meal and flour of cereals	R				-	-	-
048	Cereal preparations	R				0.1/0.7	0.8/0.9	0.7/0.9
052	Dried fruit	R				131.9/61.2	73.4/87.7	2.0/6.0
053	Fruit,preserved and fruit preparations	R				13.1/12.3	6.6/5.4	16.4/13.8
055	Vegetables, preserved or prepared	R				19.1/11.7	1.4/2.1	14.2/30.9
061	Sugar and honey	R				0.2/0.5	19.8/10.1	49.2/24.0
062	Sugar confectionery	R				2.9/1.7	-	-
0713	Coffe extracts, essences etc.	R				-	18.4/38.3	63.8/27.6
0722/3	Cocoa powder (unsweetened), butter and paste	R				0.2/2.1	-	73.7/161.4
073	Chocolate etc.	R				-	0.2/4.5	2.1/26.9
074	Tea and mate	R				-	2.1/3.2	131.3/297.2
081	Feeding stuff for animals	R				0.6/0.5	9.7/14.0	6.3/4.4
091	Margarine and shortening	R				-	-	-
099	Food preparations not elsewhere specified	R				1.0/0.8	1.5/1.3	0.4/0.7
111	Non-alcoholic beverages, not elsewhere specified	R				-	-	-
112	Alcoholic beverages	R				6.7/5.6	0.5/0.8	3.5/1.9
122	Tobacco manufactures	R				-	-	0.8/1.2
2219	Flour and meat of oil seeds etc.	R				-	-	-
2312	Synthetic rubber etc	R				-	-	-
243	Wood, shaped or simply worked	R				1.5/2.1	4.7/1.7	5.4/3.9
251	Pulp and waste paper	R				0.6/2.0	0.1/0.2	-
2626-8	Wool shoddy, wool or other animal hair, wool tops	R				-	-	-
266	Synthetic and regenerated fibres	R				0.6/0.8	-	-
332	Petroleum products	R				1.2/1.6	9.7/7.0	0.9/1.4

Annex Table 34 (continued)

Export performance ratios for manufacturing industries, by country sample

		Type codes a/				Export performance ratio (1966-1967/1975-1976)		
SITC	Commodity (industry)	RES	SK	PD	FI	Developed countries, comparative sample	NICs	Developing countries, comparative sample
411	Animals oils and fats	R				-	-	-
421	Fixed vegetable oils, soft	R				14.1/4.7	9.2/11.0	35.9/27.1
422	Other fixed vegetable oils	R				-	19.1/9.9	76.7/74.9
431	Animal and vegetable oils, processed etc	R				-	9.2/2.0	-
512	Organic chemicals	R				0.6/0.7	0.6/0.5	0.1/0.2
513	Inorganic chemicals elements etc	R				3.6/1.7	2.4/2.1	1.1/4.0
514	Other inorganic chemicals	R				0.8/1.7	0.4/1.0	0.1/0.6
515	Radioactive materials etc	R				-	-	-
521	Mineral tar etc	R				-	-	1.9/20.1
531	Synthetic organic dyestuffs etc.		H	L	K	-	-	0.0/0.3
532	Dyeing and tanning extracts etc.		H	L	K	-	38.7/36.1	-
533	Pigments, paints, etc		H	L		1.0/1.5	0.5/0.3	0.2/0.4
541	Medicinal and pharmaceutical products		H	L	K	0.6/0.8	1.3/0.9	0.4/0.5
551	Essential oils etc.		H	L	L	1.7/0.9	3.5/2.0	1.3/7.1
553	Perfumery and cosmetics		H	L	K	1.0/0.8	-	1.5/6.6
554	Soaps, cleansing and polishing preparations		H	H	K	0.7/0.7	-	0.3/0.5
561	Fertilizers, manufactured	R				2.0/2.9	0.2/0.2	2.1/1.3
571	Explosives etc.		H	L	K	2.1/8.7	-	-
581	Plastic materials etc.		L	H	K	0.3/0.4	0.1/0.1	0.1/0.2
599	Chemical materials and products not elsewhere specified					2.0/1.6	0.7/0.6	0.2/0.6
611	Leather		L	L	L	2.0/2.1	2.3/6.3	16.8/21.2
612	Manufactured of leather not elsewhere specified		L	H	L	5.0/3.4	0.8/2.2	0.3/2.6
613	Fur skins, tanned or dressed		L	L	L	20.9/17.6	-	-
621	Materials of rubber		L	L	L	0.3/0.8	-	-
629	Articles of rubber not elsewhere specified		L	H	K	1.6/2.7	0.3/1.1	0.8/0.3
631	Venners, plywood etc.	R				2.9/1.5	22.1/8.1	17.4/5.4
632	Wood manufactures not elsewhere specified	R				7.6/2.5	0.9/1.6	1.2/6.2
633	Cork manufactures	R				100.7/160.5	-	-
641	Paper and paperboard	R				0.3/0.5	0.0/0.1	-
642	Articles made of paper etc	R				0.8/1.0	0.6/0.6	5.9/1.4
651	Textile yarn and thread		L	L	L	2.5/3.0	1.1/3.0	4.2/5.6
652	Cotton fabrics		L	L	L	4.2/2.8	8.2/6.5	4.9/8.3

Annex Table 34 (continued)

Export performance ratios for manufacturing industries, by country sample

SITC	Commodity (industry)	Type codes[a]				Export performance ratio (1966-1967/1975-1976)		
		RES	SK	PD	FI	Developed countries, comparative sample	NICs	Developing countries, comparative sample
653	Textile fabrics, other than cotton		L	L	L	0.8/1.1	1.0/2.1	7.9/2.4
654	Tulle, lace, embroidery etc		L	L	L	1.0/1.5	1.6/5.2	-
655	Special textile fabrics etc		L	L	L	3.7/1.6	1.1/1.2	0.5/1.3
656	Made-up articles of textile materials not elsewhere specified		L	H	L	4.1/7.7	5.1/3.0	22.6/12.7
657	Floor coverings tapestries etc		L	H	L	0.9/2.6	0.6/2.2	4.6/5.9
661	Lime, cement etc		L	L	K	2.6/10.3	0.7/3.1	4.1/4.4
662	Clay construction materials etc		L	L	L	1.1/2.3	0.8/0.6	0.3/0.5
663	Mineral manufactures not elsewhere specified		H	L	L	1.0/0.9	0.2/0.6	0.2/0.3
664	Glass		L	L	K	0.5/0.7	0.3/0.9	-
665	Glassware		L	L	L	1.5/1.6	1.3/2.3	0.2/0.6
666	Pottery		L	L	L	0.6/1.4	-	-
671	Pig iron etc		L	H	K	1.8/4.0	2.0/4.4	3.2/3.2
672	Primary forms of iron and steel		L	L	K	0.4/0.4	0.2/0.3	0.0/0.3
673	Iron and steel bars etc.		L	H	K	0.3/2.0	0.4/0.3	0.7/0.9
674	Universals etc of iron and steel		L	H	K	0.0/0.5	0.6/0.3	0.0/0.1
675	Hoop and strips of iron and steel		L	H	K	-	-	-
676	Rails etc.		L	H	K	3.7/1.8	-	0.7/2.1
677	Iron and steel wire		L	L	K	-	-	-
678	Tubes, pipes of iron and steel		L	H	K	0.6/0.8	-	-
679	Iron and steel castings etc. not elsewhere		L	L	K	2.6/1.5	-	-
681	Silver, plantinum etc	R				0.5/0.6	-	1.7/18.0
682	Copper	R				2.3/2.8	1.0/0.2	-
683	Nickel	R				-	-	0.0/8.3
684	Aluminium	R				3.4/3.8	0.1/0.2	17.1/6.0
685	Lead	R				6.4/4.5	24.8/17.8	-
686	Zinc	R				1.6/4.1	2.2/10.5	-
687	Tin	R				-	0.3/2.6	100.6/114.0
689	Miscellaneous non-ferrous base metals	R				-	-	-
691	Finished structural parts not elswhere specified		H	H		1.1/1.2	0.2/0.3	0.1/0.3
692	Metal containers		H	L		1.4/2.0	2.5/0.9	-
693	Wire products (excluding electric)		H	L	L	2.1/1.9	0.4/1.1	0.4/0.8
694	Nails, screws, etc		H	L	K	1.0/1.7	0.2/0.6	0.2/0.5
695	Tools		L	L	K	1.1/1.4	0.3/0.5	0.2/0.6
696	Cultery		L	L	L	1.2/1.9	1.1/3.6	-

Annex Table 34 (continued)

Export performance ratios for manufacturing industries, by country sample

SITC	Commodity (industry)	Type codes[a/] RES	SK	FD	FI	Export performance ratio (1966-1967/1975-1976) Developed countries, comparative sample	NICs	Developing countries, comparative sample
697	Household equipment		H	L	L	1.7/3.8	3.6/2.8	0.4/1.4
698	Manufactures of metal not elsewhere specified		H			1.6/5.2	1.1/0.8	0.2/0.3
711	Power generating machines, non-electric		H	L		0.3/0.4	0.1/0.7	0.0/0.1
712	Agricultural machinery		H	L	L	0.4/0.5	0.0/0.4	-
714	Office machines		H	H	L	0.2/0.4	0.6/1.0	-
715	Metal-working machinery		H	L	L	0.8/1.0	0.1/0.2	0.0/0.1
717	Textile and leather machinery		H	L	L	1.4/0.6	0.2/0.2	0.1/0.1
718	Machines for special industries		H	L	L	0.2/0.3	0.2/0.4	0.1/0.1
719	Machinery and appliances not elsewhere specified		H	L	L	0.2/0.5	0.1/0.3	0.1/0.1
722	Electric power machinery etc		H	L	L	0.7/0.9	0.1/0.4	0.0/0.2
723	Equipment for distributing electricity		H	L	L	5.3/3.1	0.3/0.4	0.1/0.4
724	Telecommunications apparatus		H	L	L	0.2/0.8	1.2/1.5	0.0/0.1
725	Domestic electrical equipment		H	L	L	0.2/1.1	0.4/1.1	0.1/0.1
726	Electric apparatus, medical etc.		H	L	L	-	-	-
729	Other electrical machinery		H	L	L	0.2/0.5	0.7/1.9	0.1/0.3
731	Railway vehicles		L	L	L	5.0/2.7	0.0/0.9	0.1/0.7
732	Road motor vehicles		L	H		0.2/0.4	0.1/0.3	0.0/0.1
733	Road vehicles other than motor vehicles		L	H		1.9/1.5	0.3/0.6	0.3/1.1
734	Aircraft		H	L		0.2/0.6	0.2/0.2	-
735	Ships and boats		H	L	L	2.8/1.3	0.2/1.0	0.0/0.1
812	Sanitary, plumbing, heating fixtures		L	L	L	2.2/1.5	4.6/2.4	0.1/0.6
821	Furniture		L	L	L	4.3/2.9	1.4/0.7	0.3/0.6
831	Travel goods		L	L	L	1.6/1.9	6.4/10.6	0.5/5.5
841	Clothing		L	L	L	2.5/2.9	14.1/13.2	0.3/2.9
842	Fur clothing		L	L	L	4.1/6.8	0.8/8.6	-
851	Footwear		L	L	L	5.4/7.5	4.6/4.9	1.6/1.5
861	Scientific etc. instruments		H	L	K	0.2/0.3	0.1/0.4	0.0/0.1
862	Photographic cinematographic supplies		H	H		-	0.1/1.0	-
864	Watches and clocks		L	H	K	0.0/0.3	0.8/4.3	-
891	Musical instruments etc		H	H	L	0.2/0.3	0.2/1.6	-
892	Printed matter		H	H	L	4.1/2.7	1.4/1.6	0.3/1.3
893	Articles of artifical plastic materials		L	H	L	1.0/1.1	1.5/3.3	0.1/0.5
894	Perambulators, toys, sporting goods		L	L	L	1.0/1.6	11.9/10.3	0.0/0.4
895	Office and stationery supplies not elsewhere specified			L		-	-	-
897	Jewellery etc.		L	L	L	1.0/1.8	3.0/6.0	0.6/0.9
899	Manufactured articles not elsewhere specified		L	L	L	1.4/0.9	17.7/5.1	0.5/4.3

Note: The SITC items listed are understood to be "trade in manufacturers" as defined in the first section of Chapter II, with the addition of the following seven SITC groups or subgroups: fresh, chilled or frozen meat (011), eggs (025), reclaimed rubber (2313), waste and scrap of unhardened rubber (2314), waste of wool and other animal hair, not elsewhere specified (2629), cotton (263) and waste materials from textile fabrics (267). Because of the high proportion of primary items included in SITC 011, 025, and 263 and the waste character of the other trade categories, they were excluded from the detailed presentation. For a description of each product category, see Standard International Trade Classification, Revision 2, (United Nations publication, Sales No. 75.XVII.6).

a/ In the columns headed "Type codes", industries are classified by four different criteria:

(a) Resource dependence (RES): The identification of resource-based industries (R) relied heavily on the work of S. Hirsch, "Capital or technology? Confronting the neo-factor proportions and neo-technology accounts of international trade", Weltwirtschaftliches Archiv, Band CX, Heft 4, p. 343. All products included in SITC classifications 0, 1 and 4 and part of SITC 2 were considered to be resource-based.

(b) Skill intensity (SK): The designations of a high (H) or low (L) level of skill intensity for industries that were not resource-based drew upon the work of H.B. Lary regarding the percentage of the skilled labour force in the United States. See Imports of Manufactures from Less Developed Countries (New York, National Bureau of Economic Research, 1968). Use was also made of the work by S. Hirsch, "The product cycle model of international trade - a multi-country cross-section analysis", Oxford Bulletin of Economics and Statistics, vol. 37, No. 4 (November 1975), and G.C. Hufbauer, "The impact of national characteristics and technology on the commodity composition of trade in manufactured goods", in The Technology Factor in International Trade, R. Vernon, ed. (New York Bureau of Economic Research, 1970). The dividing line between the two designations was taken to be the arithmetic mean of the sampled skill ratios.

(c) Product development (PD): Following J.M. Finger, "A new view of the product cycle theory", Weltwirtschaftliches Archiv, Band CXI, 1975, p. 79, industries were classified according to high (H) or low (L) rates of "product development". Rates of product turnover (defined as the number of items that appeared or disappeared over a given period as a percentage of the total number of items in the SITC group or subgroup) derived from United States data for the period 1965-71 and presented in Finger's article, were used for this classification. Again the simple above-mean (H) or below-mean (L) criterion was applied.

Annex Table 34
(continued)

(d) Factor intensity (FI): The sources used for classifying industries into a labour-intensive (L) and a capital-intensive (K) subgroup were the following (listed in priority order of use):

(i) A.H.M. Mahfuzur Rahman, Exports of Manufactures from Developing Countries, A Study on Comparative Advantage (Rotterdam University Press, 1973), p. 131 (based on 1965 data from India on capital per man);

(ii) Lary, op. cit., p. 191 (based on 1965 United States data on value added per employee);

(iii) Hirsch, loc. cit., pp. 311, 317;

(iv) G.C. Hufbauer, loc. cit., table A-2.

b/ A dash (-) in one of the last three columns of the table indicates that the 1975/76 value of exports of that industry accounted for less than 0.1 per cent of total manufacturing exports of the respective country group.

Source: UNIDO, World industry in 1980, New York, 1981.

Annex Table 35

Indonesia: Elasticities of consumption for selected consumer goods, 1976.

	Elasticity[1]
Low elasticities < 1	
Cassava flour	0.16
Salted and dried fish	0.60
Fish paste	0.49
Brown sugar	0.53
Cane sugar	0.98
Tea	0.65
Coffee	0.93
Laundry soap	0.89
High elasticities > 1	
Wheat flour	1.70
Canned fish	1.93
Soya sauce	1.53
Vegetable cooking oil	1.10
Soft drinks	2.40
Toiletsoap	1.29
Cosmetics	1.50
Medicines	1.45
Stationery and books	1.21
Clothing	1.22
Footwear	1.63
Furniture	2.92
Household utensils	1.61

Source: Calculated from BPS Socio-Economic Survey, 1976.

[1] Estimated through the use of the equation, $\ln y_i = a + b \ln x$, where y_i is consumption of good i, x is total consumption and b is the consumption elasticity.

Annex Table 36

Growth and size elasticities, 1969-1973, for large countries

ISIC	Sector	Growth	Size
311	Food products	1.07	- 0.11
313	Beverages	1.15	- 0.62
314	Tobacco	0.65	- 0.12
321	Textiles	1.02	- 0.04
322	Wearing apparel	1.55	- 0.59
323	Leather and fur products	1.15	- 0.28
324	Footwear	1.14	- 0.57
331	Wood and cork products	1.19	- 0.31
332	Furniture and fixtures	1.57	- 0.23
341	Paper	1.77	- 0.17
342	Printing and publishing	1.50	- 0.17
351	Industrial chemicals	1.67	0.18
352	Other chemicals	1.35	0.10
353	Petroleum refineries	1.05	- 0.04
354	Miscellaneous products of petroleum and coal	1.13	0.10
355	Rubber products	1.22	0.27
356	Plastic products	1.49	- 0.12
361	Pottery, china and earthenware	1.13	- 0.41
362	Glass	1.58	- 0.13
369	Other non-metallic mineral products	1.22	- 0.19
371	Iron and steel	1.81	0.27
372	Non-ferrous metals	1.44	0.09
381	Metal products, excluding machinery	1.48	- 0.15
382	Non-electrical machinery	2.05	0.40
383	Electrical machinery	1.77	0.11
384	Transport equipment	1.86	0.25
385	Professional and scientific equipment, photographic and optical goods	2.10	0.40
390	Other manufactures	1.29	- 0.11

Source: UNIDO, World Industry since 1960: Progress and Prospects, United Nations, New York, 1979

Note: The equation for the regression analysis had the form $\ln (V/N) = a + b \ln Y + c \ln B$, where V is value added in millions of 1970 dollars, Y is per capita GDP and N is population in millions. Data includes that for both developing and developed market economies.

Annex Table 37

Distribution of production of domestic manufacturing over main supply categories and distribution of domestically produced intermediate manufactures over main purchasing sectors

Units %

Distribution total domestic production of manufactures	
Intermediates	37
Consumption	47
Capital formation	8
Stocks	4
Exports	4
Total	100
Distribution domestic production of intermediate manufactures	
1. Agriculture	7
2. Mining	3
3. Agriculture processing	-
4. Main manufacturing	40
5. Oil refinery/LNG	1
6. Electricity	1
7. Construction	24
8. Trade	12
9. Transport	8
10. Financial	-
11. Public adm.	-
12. Other services	4
13. Unspec.	-
Total	100

Source: Ministry of Industry/NEI, "Structural Analysis of the Indonesian Manufacturing Sector", Rotterdam, February, 1983.

Component shares of demand for domestically produced goods (total demand = 100)

Nr.	(Industry Sectors) Sector	Total Interm. Output	190 Private Consumption	302 Govern. Consumption	303 Gross Fixed Capital Form.	304 Net Change in Stocks	305+306 Exports of Goods/ Serv.	310 Total Demand
7	Handpounded rice	29.63	64.94	0.00	0.00	5.43	0.00	100.00
8	Cassava products	12.74	77.51	0.00	0.00	.75	9.00	100.00
9	Rubber	17.48	0.00	0.00	0.00	-6.01	88.54	100.00
10	Brown sugar	44.46	47.76	3.48	0.00	4.30	0.00	100.00
11	Copra	89.65	0.00	0.00	0.00	-5.22	15.58	100.00
12	Farm coconut oil	32.95	69.47	0.00	0.00	-2.41	0.00	100.00
13	Processed tobacco	18.80	87.43	0.00	0.00	-6.26	.04	100.00
14	Farm proc. coffee	84.95	6.26	3.69	0.00	5.09	0.00	100.00
15	Farm proc. tea	2.23	48.14	.41	0.00	-3.63	52.85	100.00
16	Slaughtering	12.28	85.77	0.00	0.00	.27	1.69	100.00
17	Sawmilling in forest	79.38	0.00	0.00	0.00	.65	19.97	100.00
18	Drying,salting fish	2.98	91.56	0.00	0.00	4.39	1.07	100.00
22	Meat processing	17.44	79.94	0.00	0.00	2.46	.16	100.00
23	Dairy products	33.26	66.22	0.00	0.00	.45	.07	100.00
24	Fruits/veget. proc.	33.47	5.19	0.00	0.00	3.41	57.94	100.00
25	Fish processing	4.82	94.58	0.00	0.00	.26	.34	100.00
26	Coconut cook. oil	9.98	62.79	0.00	0.00	.03	27.21	100.00
27	Other veget/an. oil	54.03	35.51	0.00	0.00	.00	10.45	100.00
28	Rice milling	10.34	83.44	0.00	0.00	5.78	.44	100.00
29	Grain mill products	73.64	16.14	0.00	0.00	2.50	7.72	100.00
30	Sugar	31.82	64.42	0.00	0.00	.82	2.94	100.00
31	Bakery products	36.66	60.27	0.00	0.00	3.05	.02	100.00
32	Noodles/macaroni	56.85	39.93	0.00	0.00	3.22	.00	100.00
33	Cocoa, choc., sugar	11.44	19.39	0.00	0.00	.02	69.15	100.00
34	Coffee grinding	4.28	88.09	4.62	0.00	2.21	.80	100.00
35	Tea processing	30.00	67.13	.55	0.00	2.22	.09	100.00
36	Soya bean processing	4.34	91.88	0.00	0.00	3.77	.00	100.00
37	Other food products	21.03	74.12	0.00	0.00	4.23	.62	100.00
38	Alcoholic beverages	38.97	54.49	0.00	0.00	1.62	4.92	100.00
39	Soft drinks	51.04	45.85	2.92	0.00	.02	.17	100.00
40	Cigarettes	.09	80.07	0.00	0.00	19.77	.07	100.00
41	Spinning	80.32	18.09	0.00	0.00	.71	.88	100.00
42	Weaving	32.24	63.43	0.00	0.00	.13	4.20	100.00
43	Textile finishing	87.98	0.00	0.00	0.00	12.02	0.00	100.00
44	Batik	36.62	54.66	0.00	0.00	-2.19	10.91	100.00
45	Knitting	12.42	83.96	0.00	0.00	-7.79	11.40	100.00
46	Made-up textile g.	12.38	68.45	4.83	0.00	-2.97	17.30	100.00
47	Carpets, rugs, ropes	116.21	6.52	4.22	1.40	-33.01	4.65	100.00
48	Tann./leather proc.	85.97	0.00	0.00	0.00	1.69	12.34	100.00
49	Leather products	9.04	78.72	17.61	0.00	-6.39	1.02	100.00
50	Sawm. and other proc.	90.71	0.00	0.00	0.00	.77	8.52	100.00
51	Wood and cork	84.23	5.97	4.04	1.57	1.60	2.58	100.00
52	Furniture, fixtures	5.68	70.81	0.00	20.28	2.46	.78	100.00
53	Pulp and paper	82.10	.39	21.10	0.00	-7.72	4.13	100.00
54	Paper products	88.42	2.06	18.43	0.00	-8.91	.01	100.00
55	Printing, publishing	37.85	27.93	34.81	0.00	-.62	.03	100.00
56	Basic chemicals	145.13	2.91	15.71	0.00	-84.30	20.54	100.00

Annex Table 38
(continued)

Component shares of demand for domestically produced goods (total demand = 100) (continued)

Nr.	Sector	Total Interm. Output	190 Private Consump-tion	302 Govern. Consump-tion	303 Gross Fixed Capital Form.	304 Net Change in Stocks	305+306 Exports of Goods/ Serv.	310 Total Demand
	(Industry Sectors)							
57	Fertilisers	86.45	.87	0.00	0.00	4.55	8.12	100.00
58	Paints	104.59	.90	0.00	0.00	-5.57	.07	100.00
59	Drugs and medicines	33.92	49.66	8.12	0.00	.25	8.04	100.00
60	Soaps and cosmetics	27.42	68.87	.23	0.00	3.44	.04	100.00
61	Other chemical products	27.28	65.89	4.61	0.00	.09	2.12	100.00
62	Pesticides	72.83	19.61	11.47	0.00	-3.95	.04	100.00
63	Petroleum refin./lng.	26.55	4.18	2.54	0.00	.14	66.59	100.00
64	Lubric., grease oil	93.35	4.17	2.77	0.00	- .30	.01	100.00
65	Other petrol. products	85.81	2.54	0.00	0.00	9.01	2.64	100.00
66	Tyres and tubes	88.35	0.00	0.00	0.00	11.49	.15	100.00
67	Other rubber products	31.64	46.32	8.29	3.03	10.55	.17	100.00
68	Plastic products	63.71	33.62	5.45	0.00	-3.09	.31	100.00
69	Ceramics, earthenware	66.01	21.75	.67	11.49	0.00	.08	100.00
70	Glass, glass products	83.88	.99	3.94	4.04	.35	6.81	100.00
71	Structur. clay products	99.73	0.00	0.00	0.00	.21	.06	100.00
72	Cement	89.08	0.00	0.00	0.00	6.85	4.07	100.00
73	Other building materials	98.15	0.00	0.00	0.00	.72	1.14	100.00
74	Basic metals	70.38	0.00	0.00	0.00	.82	28.80	100.00
75	Metal products	79.11	6.21	2.30	11.90	.29	.20	100.00
76	Metal furn./fixtures	29.83	17.73	5.08	47.27	.07	.03	100.00
77	Structur. metal products	102.57	0.00	0.00	0.00	-4.71	2.19	100.00
78	Machinery, repair	36.82	4.68	5.06	30.23	22.60	.61	100.00
79	Radio, TV, appliances	41.07	19.55	2.62	5.12	1.34	30.29	100.00
80	Elec. app. nec., repair	62.26	9.37	11.86	5.40	10.49	.62	100.00
81	Accum./dry batteries	22.99	41.89	17.29	0.00	14.11	3.71	100.00
82	Ship build./repair	23.76	0.00	2.96	73.12	.00	.15	100.00
83	Railroad equip./repair	49.58	0.00	0.00	41.20	9.22	0.00	100.00
84	Motor vehicles	10.69	34.54	7.55	46.22	.79	.20	100.00
85	Motorcycles, byciles	29.32	55.04	9.20	4.05	2.38	.01	100.00
86	Repair of vehicles	83.83	5.29	10.87	0.00	0.00	0.00	100.00
87	Aircraft, repair	25.55	0.00	17.48	51.10	4.19	1.68	100.00
88	Profess./scientf. pr.	40.26	20.34	3.94	11.30	19.42	4.74	100.00
89	Mus. inst., sports pr.	45.49	25.39	10.45	8.98	5.55	4.13	100.00
90	Manufacturing nec.	26.31	49.37	22.56	0.00	-.54	2.30	100.00

Source: Ministry of Industry/NEI, *op.cit.*

Intermediate import requirements for industry (excluding petroleum refining/LNG.)

87	Aircraft, repair	.6437
79	Radio, TV, appliances	.5868
68	Plastic products	.5499
77	Structur. metal products	.5337
78	Machinery, repair	.5300
83	Railroad equipment/repair	.5290
85	Motocycles, bycicles	.5198
43	Textiles finishing	.5189
54	Paper products	.5183
45	Knitting	.5108
88	Professional/scientific products	.5082
80	Electrical app. nec., repair	.5069
84	Motor vehicles	.5009
59	Drugs and medicines	.4887
55	Printing, publishing	.4879
58	Paints	.4878
61	Other chemical products	.4586
41	Spinning	.4541
76	Metal furn./fixtures	.4482
47	Carpets, rugs, ropes	.4374
62	Pesticides	.4129
53	Pulp and paper	.4097
75	Metal products	.3964
42	Weaving	.3951
60	Soaps and cosmetics	.3885
70	Glass, glass products	.3816
57	Fertilisers	.3686
81	Accum./dry batteries	.3645
33	Cocoa, choc., sugar	.3609
66	Tyres and tubes	.3540
56	Basic chemicals	.3444
44	Batik	.3363
46	Made-up textile g.	.3305
86	Repair of vehicles	.2956
67	Other rubber products	.2914
23	Dairy products	.2837
36	Soya bean processing	.2778
74	Basic metals	.2512
65	Other petroleum products	.2490
89	Mus. instruments, sports products	.2431
82	Ship building/repair	.2310
69	Ceramics, earthenware	.2194
24	Fruits/veget. proc.	.2152
90	Manufacturing nec.	.1780
38	Alcoholic beverages	.1610
39	Soft drinks	.1521
77	Cement	.1422
49	Leather products	.1421

Intermediate import requirements for industry (excluding petroleum refining/LNG.)

40	Cigarettes	.1415
51	Wood and cork	.1370
48	Tann./leather proc.	.1287
64	Lubric., grease oil	.1132
73	Other building materials	.1098
52	Furniture, fixtures	.1030
13	Processed tobacco	.1013
27	Other veget./an. oil	.1012
26	Coconut cook. oil	.0771
37	Other food products	.0681
30	Sugar	.0630
31	Bakery products	.0607
21	Structur. clay products	.0540
50	Sawm. and other proc.	.0519
35	Tea processing	.0507
25	Fish processing	.0476
22	Meat processing	.0413
9	Rubber	.0334
17	Sawmilling in forest	.0318
11	Copra	.0315
18	Drying, salting fish	.0301
14	Farm proc. coffee	.0285
12	Farm coconut oil	.0284
34	Coffee grinding	.0280
28	Rice milling	.0260
10	Brown sugar	.0234
8	Cassava products	.0215
15	Farm proc. tea	.0207
7	Handpounded rice	.0200
16	Slaughtering	.0134
32	Noodles/macaroni	-.0670
29	Grain mill products	-.2639

Source: Ministry of Industry/NEI, op. cit.

Annex Table 40

Intermediate import requirements for groups of industries

Type of industries	Import requirements[a]
Intermediate	
currently produced domestically	0.219
currently imported	0.409
Consumer goods	
currently produced domestically	0.387
currently imported	0.392
Capital goods	
currently produced domestically	0.399
currently imported	0.517
Exports	0.137

Source: Ministry of Industry/NEI, "Structural Analysis of the Indonesian Manufacturing Sector", Rotterdam, February 1983.

[a] Import requirements resulting from intermediate deliveries.

Annex Table 41

Projections of incremental capital and labour force requirements in manufacturing with special reference to metal sectors; 1980-1990

		Projections 1990					
ISIC	Labour coeff. 1980 (Rp 10^9/ manyear)	Employment elasticity	Employment increase 1980-1990 scen.a (x1000)	Employment increase 1980-1990 scen.b (x1000)	ICOR	Increm. capital requirements 1980-1990 scen.a (Rp 10^9)	Increm. capital requirements 1980-1990 scen.b (Rp 10^9)
371	26	0.05	2	1	6.0	8,616	4,596
372	50	0.10	6	5	4.0	5,000	3,748
381	403	0.55	187	203	0.6	507	549
382	135	0.35	48	31	0.8	821	518
383	121	0.65	48	64	0.5	308	410
384	118	0.15	52	41	1.0	2,928	2,342
3849	286	0.40	112	112	0.4	392	392
OM	329	0.26 (0.43)	1,130	2,074	1.1 (0.7)	14,116	9,907
TOTAL	272	0.30 (0.42)	1,785	2,531	1.5 (1.0)	32,688	22,462

Source: NEI calculations.

1) The figure between brackets applies to scenario (b), the other figure to scenario (a).

Note:

1. Labour coefficients were derived from more detailed labour-output ratio's presented in Ministry of Industry/NEI, "Structural Analysis of the Indonesian Manufacturing Sector", Rotterdam, February, 1983.
2. Employment elasticities were obtained from data presented in BPS, Industrial Surveys, for 1975 and 1980. The output data from this source were converted in constant prices through application of sectoral wholesale price indices for manufacturing.
3. Capital-output ratios were, among others, obtained from data from: Ministry of Industry/NEI, "Project Mankap DTA-193: Harmonisation report", Jakarta/Rotterdam, 1983.

Annex Table 42

Projections of incremental direct intermediate import requirements and incremental manufacturing sector with special reference to metal industries; 1980-1990

ISIC	Import share 1980 a/	Projections increm. import requirements 1980-1990		Value added share 1980 b/	Projections increm. value added 1980-1990	
		scen. a	scen. b		scen. a	scen. b
371	0.35	503	268	0.28	402	214
372	0.05	63	47	0.28	350	262
381	0.51	431	467	0.25	211	229
382	0.68	698	441	0.25	257	162
383	0.66	406	541	0.23	141	189
384	0.58	1,698	1,358	0.33	966	773
3849	0.15	147	147	0.22	216	216
OM	0.30 (0.25)	3,932	3,634	0.31 (0.30)	4,127	4,490
Total	0.36 (0.31)	7,878	6,903	0.30 (0.29)	6,670	6,535

Source: NEI calculations.

a/ Share of imported inputs in production.
b/ Share of value added at factor prices in production.

Annex Table 43

Labour-intensity of groups of industries

Type of industries	Labour intensity [a/]
Intermediates	
currently produced domestically	736.5
currently imported	283.9
Consumer goods	
currently produced domestically	464.4
currently imported	441.3
Capital goods	
currently produced domestically	367.1
currently imported	303.2
Exports	594.9
Natural-resource processing industries	1,613.1
Large scale sector	235.3
Mixed sectors	793.8
Small scale sectors	834.0

Source: Ministry of Industry/NEI, "Structural Analysis of the Indonesian Manufacturing Sector", Rotterdam, February 1980.

[a/] Manyears per Rp. billion of domestic final demand.